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ABSTRACT

A discussion of the relationship of vocabulary to reading comprehension focuses on the instruction of difficult vocabulary to learners of English as a Second Language. The historical background of vocabulary instruction is chronicled and the importance of reading and vocabulary learning to each other is examined. Various kinds of difficult vocabulary are discussed, including unknown words, synophones and synforms, technical and other low-frequency words, false cognates, polysemous words, idioms, compounds, multi-word verbs, and abstract words. Four theoretical approaches to vocabulary acquisition, each suggesting a hypothesis of instruction, are then reviewed. Three of the hypotheses are classified as explicit vocabulary instruction, and the fourth is classified as reading skills instruction. Teaching strategies corresponding to each hypothesis are presented, along with two sample lesson plans, one from explicit vocabulary instruction and the other from reading skills instruction. A 73-item list of references is included. (MSE)

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TEACHING DIFFICULT VOCABULARY IN READING

A Thesis

Presented to

the Faculty of the School of Intercultural Studies

Department of TESOL and Applied Linguistics

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In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in TESOL

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by

Jonathan Walter Washburn

May 1992

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ABSTRACT

TEACHING DIFFICULT VOCABULARY IN READING

Jonathan W. Washburn

Non-native students of English often have trouble in comprehending reading materials. Difficult vocabulary is any word or phrase which blocks reading comprehension. In order to enable students to improve their reading comprehension, teachers should become aware of the importance of vocabulary to reading comprehension and the strategies which can be used in teaching vocabulary. This paper examines the historical background of vocabulary teaching and discusses the various types of difficult vocabulary. It also reviews four theoretical approaches to vocabulary acquisition. Each theory suggests a hypothesis of instruction. Three of these hypotheses are classified under explicit vocabulary instruction while a fourth is classified under reading skills instruction. Furthermore, this paper presents teaching strategies suggested by each hypothesis and provides two lesson plans of vocabulary instruction: one from explicit vocabulary instruction and one from reading skills instruction.

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CHAPTER 1

BACKGROUND TO THE PROBLEM OF VOCABULARY TEACHING

The Historical Background of Vocabulary Teaching

Reading is a source of great enjoyment for people all over the world. Through reading, one can be entertained, be informed, and increase one's knowledge of the world. For non-native readers of English, the importance of reading in this language has grown rapidly over the past several decades. They read, not primarily for entertainment but to gain access to the knowledge of science and technology, to understand Western history, especially democracy, or to identify with the culture of English-speaking countries. The reasons are more numerous than can be fully mentioned here.

Although there may be many reasons for learning to read English as a second or foreign language (ESL/EFL), each person's motivation involves reading for meaning. It is not the text in and of itself that usually excites, informs, or educates the reader, but the content of its ideas. Dubin, Eskey, and Grabe (1986, p. 4) point out that "the language of a text is just a means to an end. The end is comprehension." The reason for reading is to comprehend the thoughts, concepts, and intents of the writer.

For the ESL/EFL student, however, reading can be a laborious task rather than a joy. One of the great stumbling blocks to English language reading proficiency is difficult vocabulary. Simply put, a difficult vocabulary item is a word or phrase which blocks reading comprehension. More specifically, difficult vocabulary includes: low frequency words, unfamiliar words, long words, idiomatic words, polysemous words (i.e., words with multiple meanings), technical terms, multisyllabic words, and abstract words.

The Historical De-emphasis of Vocabulary Teaching

One of the reasons ESL/EFL students struggle to get meaning from reading is their lack of vocabulary knowledge. This is due primarily to the de-emphasis of vocabulary teaching over the past several decades. Numerous factors have contributed to this de-emphasis.

Although the grammar translation approach emphasized vocabulary, it may actually have contributed to the demise of vocabulary teaching. In this approach, long lists of words were to be memorized and then written into complicated sentences (Rivers, 1983). These lists were organized according to frequency counts. As a result, the words on the list skipped from semantic area to semantic area without any thought being given to their meaning relationships (Rivers, 1983). In addition, learning high frequency vocabulary in itself did not prepare students to

understand authentic speech or writing (Rivers, 1983). Further, frequency lists were not considered carefully for their communicative purposes. For example, the 200 most frequent words were function words, with a few general purpose nouns and verbs. Many of the words needed for daily use were not included on these lists of the highest frequency items (Rivers, 1983). Because of the methods used in the grammar translation approach, vocabulary teaching was not highly successful.

In the 1940s, structural linguistics was coming into vogue. This was due, in part, to a reaction against too much time being given to vocabulary teaching in the classroom (Allen, 1983). Fries, an important scholar of this period, believed that mastering the sound system and grammatical structure were of utmost importance before learning vocabulary (Carter and McCarthy, 1988). Structural linguistics, then, with its emphasis on phonology, morphology, and syntax, hastened the decline in vocabulary teaching (Rivers, 1983).

Fries's viewpoint influenced linguistic theory for a long time. As a result, "structuralism and contrastive analysis, along with behavioral psychology, gave rise to the audiolingual method" (Carter and McCarthy, 1988, p. 41). The audiolingual method followed Fries's belief against teaching too much vocabulary and stressed the mastery of structure. His purpose was to keep the amount of

new vocabulary down while structure was being learned. Later the learner would grasp the structural use of the new vocabulary and have to deal only with its referential meaning. This is seen as a weakness now, but it was a reaction against and an advance over the grammar translation method. The audiolingual method, then, emphasized the importance of grammatical structures for expressing meaning. "It was presumed that these structures would be fleshed out with more words at a later stage. For many this stage never came" (Rivers, 1983, p. 118).

During the 1960s, the de-emphasis of vocabulary teaching reached its height. The theoretical shift from structural linguistics to transformational grammar caused language teaching methodology to focus even more strongly on grammatical structures and reinforced the notion that vocabulary was of secondary importance.

Even today, some language teaching methods lack an emphasis on vocabulary teaching. For example, the Silent Way method follows a structural approach to language teaching (i.e., as in the approach of structural linguistics); the focus is on pronunciation and grammar rules. "The sentence is the basic unit of teaching, and the teacher focuses on propositional meaning rather than communicative value" (Richards and Rodgers, 1986, p. 101).

Caleb Gattegno, the developer of the Silent Way method, considered the most functional and versatile words

in a language to be the most important for the learner. "Vocabulary is selected according to the degree to which it can be manipulated within a given structure and according to its productivity within the classroom setting" (Richards and Rodgers, 1986, p. 104).

The Silent Way method attempts to improve a knowledge of these words by using 12 charts containing some 500 words to display the vocabulary to be learned. Gattegno's (1976) purpose for the words on the charts is to keep them available to the students so that they won't forget any of them. Also, these words can be associated to meanings illustrated by situations with the rods and can be practiced in one or more uses in the classroom. Furthermore, Gattegno explains that widening the set of words on each chart can be accomplished by adding morphemes (e.g., ly, ing, er, est) and making questions (e.g., red?, his?, here?, now?). Finally, vocabulary can be expanded by the use of pictures. This technique is good for learning nouns and classifying them.

Although the Silent Way has benefits as a language teaching method, it does not promote rapid vocabulary growth or tackle the problems of difficult vocabulary in reading. It provides a way for learning the basic vocabulary (500 to 800 words) but does not expand vocabulary much beyond that.

Renewed Interest in Vocabulary Teaching

Despite the heavy emphasis on grammar and linguistic structures during the past 50 years, vocabulary teaching has regained an important place in the classroom. Scholars have taken a new interest in the study of word meanings. "Through research the scholars are finding that lexical problems frequently interfere with communication; communication breaks down when people do not use the right words" (Allen, 1983, p. 5). Although this does not mean that grammar or other skill areas should be neglected, it does indicate that vocabulary teaching has a significant role to play in the language learning environment.

In the early 1970s, vocabulary teaching started to make a comeback. In 1972, Wilkins recognized the neglect of vocabulary during the audiolingual years. The significance of his work was to bring insights from the discipline of lexical semantics to vocabulary teaching. Accordingly, Wilkins says that lexical semantics has helped language professionals to understand the process of translation, the organization of the lexicon, and sense-relations which are related to the "complexity of the acquisition of meaning" (Carter and McCarthy, 1988, p. 42).

About this same time, Twaddell strongly advocated massive expansion of learners' vocabularies at the intermediate level. Twaddell rejected the notion that vocabulary teaching should be organized by frequency counts. Since it

is not realistic to teach all the words students need to know, Twaddell emphasized the teaching of guessing strategies. According to Carter and McCarthy (1988, p. 42), his view was the beginning of considering "vocabulary learning as a skill, [and] of shifting the responsibility to the learner."

By the mid 1970s, there was a growing concern over the relationship between vocabulary and the learning task. It had become generally accepted that reading was important to the development of vocabulary expansion. However, in 1974, Donley argued that extensive reading alone was not sufficient. His contention was that vocabulary learning could be enhanced by paradigmatic associations (words learned out of context and by contrast) both of meaning and of sound (e.g., wine/whine) (Carter and McCarthy, 1988).

The importance of vocabulary teaching was furthered in 1974 by Lord who states that the relationship between thought and words is a dynamic one. Lord insists that it is a process, not an item on a list to be learned. His "arguments represent a further shift from the 'vocabulary-control' approach to one more concerned with the acquisition of meaning" (Carter and McCarthy, 1988, p. 43).

Around this same time, research findings suggested that an understanding of the semantic structure of the lexicon was critical to the reviving of vocabulary teaching. In 1974, Brown emphasized collocations as a way to sensi-

tize learners to contextual redundancy, which can help to increase comprehension (Carter and McCarthy, 1988). In 1975, Anthony wrote an article on structural clustering in the lexicon and discussed the implications of this lexical theory for language pedagogy (Carter and McCarthy, 1988). In 1976, Nilsen followed up Anthony's lexical theory with a strong discussion of the role of semantics in vocabulary teaching. In Nilsen's view, "The development of the paradigmatic approach [studying vocabulary out of context and in contrastive systems] is a prerequisite to the syntagmatic approach [studying vocabulary in context]" (Carter and McCarthy, 1988, p. 43).

One of the major issues raised during the mid-1970s was the move away from seeing vocabulary as lists to be memorized and the move toward the active involvement of the learner in the acquisition process. Richards (1980) speaks to this issue by proposing a list of eight assumptions which suggest some of the knowledge that is assumed to be involved in developing lexical competence. These eight assumptions summarize the "basis for formulating objectives in vocabulary teaching and for the assessment of teaching techniques" (Carter and McCarthy, 1988, p. 44). Richards's (1980) lists the following assumptions:

1. The native speaker of a language continues to expand his vocabulary in adulthood, whereas there is comparatively little development of syntax in adult life.

2. Knowing a word means knowing the degree of probability of encountering that word in speech or print. For many words we also know the sort of words most likely to be found associated with the word.

3. Knowing a word implies knowing the limitations on the use of the word according to variations of function and situation.

4. Knowing a word means knowing the syntactic behavior associated with the word.

5. Knowing a word entails knowledge of the underlying form of the word and the derivations that can be made from it.

6. Knowing a word entails knowledge of the network of associations between that word and other words in the language.

7. Knowing a word means knowing the semantic value of a word.

8. Knowing a word means knowing many of the different meanings associated with the word. (p. 431)

During the last years of the 1970s, interest increased in further studies of the lexicon and the practical needs of ESL/EFL students. Interest in the lexicon became more attuned to the learners' needs. As a result, the trend to identify useful vocabulary as a resource for specific groups of learners continued into the 1980s (Carter and McCarthy, 1988).

At this same time, some language teaching methods, especially Lozanov's Suggestopedia (a specific set of learning recommendations based on yoga and Soviet psychol-

ogy), made dramatic claims for learning vast amounts of words. "Memorization in learning by the suggestopedic method seems to be accelerated 25 times over that in learning by conventional methods" (Lozanov cited in Richards and Rodgers, 1986, p. 142).

Judd (1978) reaffirmed the status of vocabulary acquisition as a skill in its own right. Because of the complexity and enormity of the task of vocabulary learning, massive vocabulary expansion by direct teaching was strongly advocated. First, in Judd's view, vocabulary instruction is not assumed to be incompatible with grammar teaching. Rather, he says (1978, p. 72), "through the use of methods such as collocation devices, a variety of new lexical items that are within the limits of the student's grammatical knowledge can be easily incorporated into the teaching design." Second, direct teaching, when systematically and logically applied, ensures that students will learn those words and phrases that they need to know when they leave ESL programs. Direct teaching should present words in their natural linguistic context. In addition, words should be meaningful to the learner and reviewed regularly (Carter and McCarthy, 1988).

During the late 1970s, the lexicon was beginning to be recognized as a resource for communication. An outgrowth of this realization led to an interest in lexical strategies. Blum and Levenston in 1978 (cited in Carter and

McCarthy, 1988) studied lexical simplification and discovered some universal strategies. Simplified reading texts illustrate these strategies when they change the material of unedited texts by using superordinates, approximations, synonyms, circumlocutions, and paraphrases.

Toward the end of the 1970s, the Natural Approach emphasized simplification of the teachers' instructional language by the use of high frequency vocabulary, less slang, and fewer idioms (Carter and McCarthy, 1988).

Thus, by the end of the 1970s, a renewed emphasis on vocabulary teaching was maturing in the field of language pedagogy. The value of vocabulary as a subject area was re-established. Insights from lexical semantics were used to incorporate the notions of sense-relations and collocations into teaching materials. Both an interest in the learner and the perception of the lexicon as a resource for the learner to increase his/her ability in communication helped vocabulary teaching to mature.

Current Perspectives on Vocabulary Teaching

During the past decade, vocabulary teaching has been shown to be an important component of second language teaching. In 1980, the Regional English Language Centre (RELC) published, as a supplement to its journal on second language teaching, a collection of papers under the title Guidelines for Vocabulary Teaching. Brown's contribution to this collection (pp. 1-17), "Eight Cs and a G," orga-

nizes different views from the 1970s into a set of principles for vocabulary teaching. Madden addresses the issue of guessing and extends its application (pp. 111-117). He makes a "distinction between important vocabulary that should be pre-taught because it cannot be guessed from the text, vocabulary which can be guessed in context, and vocabulary which can be ignored and studied after using [reading] the text" (p. 47). Also in this collection, Nation provides a step-by-step guessing strategy (pp. 18-23), and Sawawit describes role-play and group-work methodologies for vocabulary teaching (pp. 73-75).

More evidence suggesting that vocabulary teaching has come of age was published in the 1980s. Carter and McCarthy (1988) point out that both Meara's 1980 survey of vocabulary acquisition and Nation's 1982 survey of research into vocabulary learning raise questions about the usefulness of learning from either word-lists or context. In 1983, Meara produced a comprehensive annotated bibliography of vocabulary teaching. Carter and McCarthy (1988) outline three other important works published during this period by Wallace in 1982, Allen in 1983, and Rivers in 1983. Wallace probes questions related to vocabulary and communication. Allen emphasizes the importance of creating in the student a sense of need for a word and stresses the sociocultural dimension of vocabulary teaching. Rivers believes

that learning vocabulary is directly related to a student's purposes and goals.

Following on the heels of these developments, Gairns and Redman (1986) published a handbook for teaching vocabulary. It emphasized learner engagement, the need for new words to come from the students themselves, and suggested a variety of practical techniques for achieving this self-motivation (Carter and McCarthy, 1988).

Continuing evidence for the renewed importance of vocabulary teaching appears with the concept of paradigmatics in vocabulary teaching. Channell (1981) proposes a solution to the problem of how to expand vocabulary beyond basic vocabulary mastery by employing semantic insights from both semantic field theory, which claims that the vocabulary of a language consists of many interrelating networks of relations between words, and componential analysis (a systematic way of describing similarities and differences of meaning between words belonging to the same semantic field). Word fields (a network of relations between words) and components (aspects by which the words may be defined), when transformed into grids, illustrate semantic features of words and their collocations. Carter and McCarthy (1988) point out that Crow and Quigley (1985) continued the interest in paradigmatic relations by using a semantic field approach. On the other hand, research by Robinson in 1986 suggests that "the type of lexical compet-

tence aimed at in vocabulary teaching which uses matrices and grids gives only a 'knowledge base' which needs to be supplemented by a procedural vocabulary [words which contribute to establishing the meaning of other words] as a resource for extending this 'meaning bank' to suit unlikely or unforeseen occasions of use" (1988, p. 50-51).

Toward the close of the 1980s, Krashen (1989) applied his Input Hypothesis of second language acquisition to the issue of vocabulary teaching and vocabulary acquisition. He found that "vocabulary is most effectively attained by comprehensible input in the form of reading" (p. 441).

New Directions in Vocabulary Studies

The lexical phrase approach to vocabulary teaching (Nattinger, 1988) is a development based on the need to include phrases as vocabulary items in lessons. Multi-word verbs (e.g., "put up with"), compound nouns (e.g., "elevator operator"), and idioms (e.g., "keep tabs on") should be included along with single words.

Nattinger (1988) says that teaching lexical phrases helps students to not exceed certain lexical restrictions or misuse register. More importantly, lexical phrases will lead students toward fluency by directing their concentration away from individual words and thus enable them to focus on the larger discourse and its social aspects of interaction.

According to Nattinger, teaching lexical phrases follows the use of drills. First, in a pattern practice drill, students become familiar with the lexical phrases in the lesson. Caution should be taken not to overdo the drills and thus make them boring. Second, students are introduced to controlled variation by the use of substitution drills. As the range of patterns increases, students are able to study the patterns further. Lexical phrase groupings, called "routines," are based on Wilkins's notional-functional categories. The stress is on the vocabulary required to perform specific speech functions. These routines are divided into three major catagories: social interactions, necessary topics, and discourse devices. Social interactions and discourse devices are the types of lexical phrases that make up the framework of the discourse. Necessary topics are the type of lexical phrases used to discuss the content of a subject.

Under the heading of "vocabulary learning goals," researchers continue to study the size and nature of the task learners face especially in reading unsimplified texts. Current research by Laufer suggests that a mastery of 2000-3000 words is necessary for comprehension of unsimplified texts (Nation, 1990).

Another heading providing new directions in research is "organizing vocabulary learning." There is considerable interest in associative networks or semantic fields as a

way of enriching vocabulary knowledge. The network of associations among words in the mind of a native speaker might be a goal for second language learners. However, teaching these associations directly may not be the best way to achieve this goal. Learning is enhanced if a group of related terms require the learner to make the same response. For example, learners give the same synonym for a closely related group of words. In contrast, learning is made more difficult when each item in a group of closely related terms requires the learner to make a different response. As a result, before teaching new vocabulary in associative networks, "it is necessary to look first to see if the particular networks suggested will help or interfere with learning" (Nation, 1990, p. 191).

Students' Evaluation of Vocabulary

Students' perceptions of their own language learning needs to agree with the current perceptions about the importance of vocabulary. In 1987, the Non-Credit (NC) and Credit ESL Division of Glendale College in Glendale, California conducted a survey of students in both programs. The survey material consisted of a 74-item multiple choice questionnaire. One purpose of this survey was to determine students' perceived needs in language learning. Student participants were predominantly Hispanic (49.4%) and Armenian (23.4%), though several other ethnic groups were

represented. The response rate was 75% to 80% of the May enrollment.

Although the questions sought opinions about all the language skill areas (i.e., speaking, listening, reading, writing, grammar, and vocabulary), items considered most relevant for this study were those specifically related to the skill areas of reading and vocabulary. Students showed the most interest in speaking and listening skills because they are useful not only for school, but also for everyday life. However, when compared to reading, writing, and grammar, vocabulary scored substantially high. Item 32 expressed it this way:

32. What skill do you most need in English?

	N/C	Credit
A. Reading	15.0%	11.6%
B. Writing	16.8%	24.7%
C. Grammar	32.7%	25.3%
D. Vocabulary	35.2%	38.2%

In addition, the relationship between reading and the problem of understanding vocabulary was significant. Even though vocabulary difficulty was considered the biggest problem in reading, learning to read was valued as highly important. Items 33 and 45 were represented like this:

33. What is your biggest problem in reading English?

	N/C	Credit
A. I read too slowly.	11.1%	16.5%
B. I do not understand many words.	46.5%	45.7%
C. I don't understand the main idea.	12.2%	17.3%
D. I have trouble with the grammar.	29.9%	20.3%

45. How important is learning to read in English for you?

	N/C	Credit
A. Highly important 100%	67.7%	66.6%
B. Very important 75%	24.1%	27.2%
C. Somewhat important 50%	7.0%	4.8%
D. Not very important 25%	1.0%	1.0%
E. Not important 0%	.2%	.4%

Based on the above information, it is not surprising that students rated learning more words as highly important. The results of item 49 appeared like this:

49. How important is learning more words for you?

	N/C	Credit
A. Highly important 100%	69.9%	71.9%
B. Very important 75%	25.7%	25.2%
C. Somewhat important 50%	3.9%	4.4%
D. Not very important 25%	.2%	.6%
E. Not important 0%	.3%	.0%

Finally, given the fact that students want to improve speaking and listening skills in an ESL program, it is significant that the skill area deemed next most important was vocabulary. Results from items 45-51 appear here in rank order according to their importance to the students:

	N/C	Credit	
Items 45-51	Speaking	79.2%	80.6%
Rank order	Listening	76.0%	77.3%
	Vocabulary	69.9%	71.9%
	Reading	67.7%	66.6%
	Grammar	65.0%	61.5%
	Writing	64.6%	64.6%

The Importance of Reading to Vocabulary Learning

Despite the problems students face when encountering difficult vocabulary, reading is still the best context for learning and understanding new words. In contrast to everyday conversations, reading provides an excellent context because of the greater variety and quantity of vocabulary, the written orthographic clues to meaning, contextualized word usage, increased processing time over spoken language, and redundancy in texts, which can guide students toward the meaning of unknown words (Cates and Swaffar, 1979).

Krashen (1989) concludes, on the basis of his research, that reading programs often result in equal or better vocabulary development when compared to explicit vocabulary teaching. In addition, vocabulary acquisition from reading is more time-efficient than methods which stress a thorough knowledge of words. If these conclusions are true for vocabulary acquisition in general, they could also be applied to the acquisition of difficult vocabulary in reading.

In contrast, Channell (1988) disagrees with the claim that reading is the best way to introduce vocabulary. In L2 (second language) comprehension, she asserts, the learner needs to break down the input of speech into processable units. This view suggests that syllable and stress recognition play an important part in decoding a

message and in accessing meanings in the lexicon. Therefore, methods used to present new vocabulary should emphasize: "(a) the pronunciation of individual sounds, (b) number of syllables, and (c) stress. Logically then, reading would appear not to be a good way to present a new item, since it gives a poor guide on each of these three characteristics" (Channell, 1989, p. 89). Although Channell makes some valid points, context is still the most important concept in vocabulary teaching. But, what is context? It could be morphological, syntactic, or discourse information in a reading text (Coady and Nation, 1988). Experts agree that vocabulary practice should be contextualized (Bensoussan and Laufer, 1984; Gabbay and Mirensky, 1985; Haynes, 1983; Mason, Kniseley, and Kendall, 1979; and Schouten-van Parreren, 1989). Because of the polysemic nature of words, a teacher may mislead students by teaching word meanings out of context (Haynes, 1983). Thus, in order for students to better understand the subtle differences in word meanings, their attention should be directed more toward the surrounding context (Mason, Kniseley, and Kendall, 1979).

Clues in the surrounding context may improve the comprehension of unknown vocabulary by helping language learners correctly guess the meaning of unknown words. Hosenfeld (cited in Gabbay and Mirensky, 1984), lists several such clues:

1. Details of description which lead to an educated guess because the word is a summary of a description or explanation.

2. 'Signalled paraphrasing' which occurs when the word is restated and is clearly signalled to the reader through such terms as: "for example", "in other words", "that is to say", etc.

3. The meaning is implied by the readers' requisite knowledge, such as "a person who is tired is apt to yawn".

4. Contrast between a known phrase and an unknown expression whereby the contrast is signalled through the use of connectors or conjunctions embedded in the sentence structure.

5. True cognates, illustrations, and examples. (p. 3).

Accordingly, clues based on context, grammar, or pragmatic knowledge (knowledge of the world) work together to help students comprehend unknown vocabulary and the limitations of the meanings of those new words.

However, unedited (authentic) texts may present greater difficulty for the use of context alone. Dubin (1989) provides a number of guidelines for teachers to follow when presenting new or difficult vocabulary from such texts. She lists these guidelines under a number of headings: (1) analyzing the text, (2) resisting excess word work, (3) presenting vocabulary before reading, (4) finding candidates for quick glossing, (5) pointing out old friends, (6) guessing with caution, (7) reading in depth, and (8) remembering the meaning/message distinction (the

distinction between understanding a concept in one's own native language and recognizing it in English).

Vocabulary comprehension can further be enhanced by using a variety of texts (Aspatore, 1984). Variety in reading material builds a knowledge of vocabulary as well as a knowledge of the culture of the target language. This background knowledge of the culture helps students to understand the cultural use of new vocabulary. For these reasons, reading provides a pedagogically sound medium for vocabulary teaching.

However, some caution needs to be exercised when teaching vocabulary through context if the text contains too many unknown words. Comprehension of the text is impeded when too many unknown words create gaps in the meaning of the text, because the student cannot construct a sufficient amount of meaning to make sense of the text.

The Importance of Vocabulary to Reading Comprehension

The relationship between vocabulary knowledge and reading comprehension has been well documented from reading research. "Vocabulary knowledge has been found to be strongly related to measures of general verbal ability and reading comprehension" (Freebody and Anderson, 1983, p. 19). Other researchers agree that the knowledge of individual words is vital to the comprehension process (Bensoussan and Laufer, 1984). In addition, a factor analysis study concluded that strong correlations exist

between vocabulary knowledge and reading comprehension (Miller, 1987).

Furthermore, measures of reading comprehension have not only correlated highly with vocabulary knowledge, but vocabulary knowledge has also been shown to be one of the best predictors of text difficulty (Reutzel and Hollingsworth, 1988). Although vocabulary can be used to predict text difficulty, mixed results were found by studies testing whether comprehension increased as a result of vocabulary instruction (Beck, Perfetti, and McKeown, 1982). Often these studies test vocabulary knowledge by using a multiple-choice test. However, if vocabulary knowledge means knowing a word well (Richards, 1980), then knowing a word well must mean more than simply having the lexical knowledge required to pass a multiple-choice test. Knowing a word well should also include the ability to use it in text comprehension (Beck, Perfetti, and McKeown, 1982). Therefore, Richards's (1980) list of assumptions (see p. 8 above) about vocabulary knowledge needs to be taken into consideration if vocabulary teaching is to significantly improve reading comprehension in general and provide access to the meaning of difficult vocabulary in particular. For example, Richards's eighth assumption involves an understanding of the richness or flexibility of a difficult word according to its use. Building vocabulary knowledge to understand the multiple meanings of a difficult word or its

idiomatic usage should improve reading comprehension of that word when it is encountered in a text. Understanding a difficult word's meaning in context not only concerns the common or basic meaning of the word, but also its connection with other concepts demanded by the context (Beck, Perfetti, and McKeown, 1982).

Take the following quote, for example: "Feminists want to show people that women do not get equal treatment. They want to change this situation and win equality for women" (Pakenham, 1986, p. 217). **Feminist** is an abstract noun for a person who demands equal rights for women. In addition to this basic meaning of the term **feminist**, its connection with the other concepts in the text includes the thought that feminists want to **show** or demonstrate in some way that women are not treated equally, and they want to **change** this situation of inequality.

Moreover, the richer one's understanding of a lexical concept, the greater one's access to semantic concepts in the text. This has significant implications for teaching strategies. In order for vocabulary instruction to affect reading comprehension, instructional strategies must go beyond simply helping the students to establish accurate responses to words. Instruction should be aimed at revealing each word's meaning and the ideas related to it. This could help students to develop a deeper knowledge of words

(Beck, Perfetti, and McKeown, 1982). Nagy and Herman in (cited in Nation, 1990) further suggest:

> Vocabulary instruction that does improve comprehension generally has some of the following characteristics: multiple exposures to instructed words, exposure to words in meaningful contexts, rich or varied information about each word, the establishment of ties between instructed words and students' own experience and prior knowledge, and an active role by students in the word-learning process. (p.192)

Another way to improve the comprehension of difficult vocabulary in reading is to develop a background knowledge of the text. Background knowledge is the knowledge about the world that the reader brings to the text. During the process of reading, "the reader's background knowledge and aspects of the text combine to either inhibit or enable comprehension" (Reutzel and Hollingsworth, 1988, p. 360). Vocabulary teaching is an important means for improving background knowledge. Since background knowledge is necessary to make inferences, carefully designed vocabulary instruction holds significant potential for improving inferential comprehension helpful to understanding difficult vocabulary in reading.

From the research mentioned in this section, it can be seen that vocabulary is a vital link to reading comprehension. Moreover, reading comprehension can be improved by knowing a word well, which includes understanding the multiple meanings of a word and its idiomatic usage. Improving the background knowledge of the text is another way that reading comprehension can be enhanced. Background

knowledge improves reading comprehension by helping students to make inferences. Also, an improvement in understanding difficult vocabulary should increase reading comprehension.

In conclusion, there have been various responses to vocabulary teaching and its effect on reading comprehension. The importance of vocabulary teaching was de-emphasized as a reaction against the grammar translation method. This reaction, however, led to an imbalance in second language teaching, since methodological practice was directed toward the structural areas of the language (phonology, morphology, and syntax) and tended to slight the lexicon.

Vocabulary teaching has been re-emphasized as a reaction, in turn, against the overemphasis on structure. Judd (1978, p. 71) asserts that "the number of syntactic and phonological rules in any language is finite [while] the number of words in a language is nearly infinite." In addition, most researchers agree that these rules are usually learned within a certain period of time. Further, some errors in grammar are a natural part of the language learning process. As a result, educators are beginning to view grammar in its proper perspective. Therefore, since vocabulary is practically infinite and has the complexity of multiple meanings, extensive vocabulary instruction is

believed necessary to improve a student's reading comprehension.

Under these conditions, reading materials have been found to be an excellent medium for vocabulary development due to their variety and quantity of vocabulary, contextualized word usage, and redundancy. Since vocabulary should be taught in context, reading materials often provide a context with clues to help students discover the meaning of unknown words. Similarly, vocabulary is important to reading comprehension. Because of this, vocabulary instruction for difficult vocabulary is necessary in order to improve reading comprehension. However, before teaching strategies can be discussed, a clearer understanding of the nature of difficult vocabulary will be considered.

In Chapter Two, the concept of difficult vocabulary will be more specifically defined. In addition, nine categories of difficult vocabulary will be presented, as well as the problems of location and frequency of difficult vocabulary in a text.

CHAPTER 2

DIFFICULT VOCABULARY

One of the most frustrating experiences in reading for ESL/EFL students is to not quite understand the meaning of a text. In some cases, they may even know the meaning of the individual words but cannot put the words together to form an understanding.

There are numerous reasons for comprehension to break down in reading, some of which are found within the student. The student may lack prior knowledge of or interest in the topic. Other reasons for comprehension breakdown can be found in the text: syntax, rhetorical structure, or difficult vocabulary.

In this chapter, the problem of difficult vocabulary (a word or phrase which blocks the comprehension of a text) in reading comprehension will be discussed. In fact, vocabulary has been identified as difficult in various ways. First, the most common identification according to Nation and Coady (1988) is word frequency. That is, words that are used infrequently are usually unknown to the reader. Second, according to Nattinger (1988), words that are unfamiliar to the reader are difficult. Third, Laufer (1981) studied words that are similar in sound but are different in meaning (synophones). She considers these

difficult because the printed word can be transformed into a sound pattern in the reader's mind. The misunderstanding is caused by the student's confusion between sound patterns. Fourth, Laufer (1989) found that words whose graphic resemblance appears to be similar but in fact have different meanings (synforms) can also be difficult vocabulary. Fifth, Laufer (1989) further suggests that word length, idiomaticity, and multiplicity of meaning (polysemy) are additional factors defining difficult vocabulary. Sixth, as studied by Godman and Payne (1981), common English words used in the language of science are difficult words to comprehend. Finally, other researchers classify the following types of words as difficult, from empirical studies: technical terms, multi-syllabic words, abstract words, and the use of familiar words in unfamiliar contexts (Bensoussan and Laufer, 1984).

Some authors suggest that students might compensate for vocabulary difficulties by drawing on their prior knowledge of the topic (Stahl, Jacobson, Davis and Davis, 1989). However, in recent studies (Freebody and Anderson, 1983; Stahl et al., 1989), the relationship between prior knowledge and vocabulary was found not to be interactive. That is, the results of these studies strongly suggest that readers do not use prior knowledge to compensate for difficult vocabulary (Stahl et al., 1989).

However, these studies do suggest how vocabulary difficulty appears to impact reading comprehension as an independent effect (Stahl et al., 1989):

> Vocabulary difficulty appears to affect recall of both central and supporting information (Study 1), answers to textually explicit questions (Study 1), and recall of the order of major events (Studies 1 and 3). These findings all appear to suggest that vocabulary difficulty affects a very literal comprehension of the text. (p. 40)

In addition to the problem of literal comprehension, there is also the problem of the semantic relationship between words. A learner needs to understand two essential concepts in order to workout the meaning of a difficult word in reading (Channell, 1981):

1. How much does it [the difficult word] relate to other words with similar meaning?
2. Which other words can the learner use it with, and in which context? (p. 116)

These concepts reflect the fact that language is made up of many interrelating networks of relations between words. Comprehending these networks when they contain difficult vocabulary is a problem which involves both linguistic and extra-linguistic variables.

According to Rivers (1983), current theories of meaning in linguistics, philosophy, and psychology all contain the common notion of networks. Networks of relations among words can be defined either by oppositions and contrasts or by similarities. It is through words that concepts of meaning find their expression in language use. However,

words overlap concepts and take on new meanings as they enter into different combinations and relationships. For example, "When does a stone become a boulder or a rock, when is it a pebble?" (Rivers, 1983, p. 121).

Cultural knowledge of vocabulary is another difficult area for L2 learners. In reading, one of the primary tasks is to select, for a particular word, that meaning from the repertory of possible meanings which best fits the context. There are two factors that interfere with deriving the correct meaning: background knowledge, and ambient circumstances. Background knowledge involves an understanding of the topic and the cultural connotations associated with it. When students have not attained the background knowledge of a word, they experience a partial or complete failure to comprehend the text or particular words within the text.

Ambient circumstances concern the location of discourse in time and place and determine its interpretation. They relate to non-linguistic circumstances surrounding the discourse. For example, words may differ sociolexically in different contexts. **Find me that bulb** when said in the garden contains a different set of ambient circumstances from **find me that bulb** in the house (Anthony, 1975).

In sum, comprehension of the relationships between words may be affected by difficult vocabulary. These relationships include: (1) how words of similar meaning relate, (2) with which other words and in what contexts a

word can be used, (3) a knowledge of semantic networks that describe and clarify the meaning of a word, (4) the overlapping concepts of meaning in a word, (5) cultural background knowledge, and (6) ambient circumstances. Therefore, it is necessary to understand which types of vocabulary constitute difficult vocabulary.

Categories of Difficult Vocabulary

In considering the problem of vocabulary difficulty in reading comprehension, it would be advisable to know what types of vocabulary regularly cause difficulty for most students. This list of categories has been compiled by the author from the research and studies found in the English language acquisition literature.

1. unknown words
2. synophones - similar sounding words that are different in meaning
   synforms - similar in spelling but different in meaning
3. technical, non-technical, and other low frequency words
4. false cognates
5. polysemous words - words with multiple meanings
6. idioms
7. compounds
8. multi-word verbs
9. abstract words

Unknown Words

Second language (L2) students can become overwhelmed by the volume of new words they encounter in reading. Although frequency counts suggest that about 2000 words are necessary for everyday conversation, "it is estimated that

the average college student brings to any reading situation a passive vocabulary of approximately 60,000 lexical units, or more than 150,000 words" (Crow and Quigley, 1985, p. 497-498). This is a lot to acquire. "If [non-native] students were able to acquire 40 lexical units a day, 365 days a year, without forgetting a word, they would still need over four years to achieve native-speaker status!" (Crow and Quigley, 1985, p. 498).

According to Honeyfield's (1977) calculations, if a student has a passive vocabulary of 3000 words, he/she might already know about 80-90% of the words in almost any text. Encouraging as this seems, it still leaves 10-20% of words unknown in any text. These unknown words are numerous because of the vast number of low-frequency words that exist in English.

When faced with such a large number of unknown words, students tend to have difficulty sorting out important from irrelevant vocabulary. Often they will look up every new word and write it down. However, in many cases some of these words will rarely be used again (Widman-Sadler, 1988).

Synophones / Synforms

Synophones are words which sound similar but differ in meaning (Laufer, 1981). Synophones cause difficulty because students sometimes transform written words into sound patterns and misunderstandings result from the con-

fusion of similar sound patterns. However, because these mistaken words appear to sound familiar, students do not take the time to check for possible differences.

Synophones may differ in a single phoneme or in more than one phoneme. Synophones differing in one phoneme cause difficulty for three reasons. First, the distinguishing phoneme does not exist in the native language and thus is not heard by the learner (e.g., live/leave). Second, the distinguishing phoneme can be confused in context, even though it is recognized when the minimal pair is pronounced in isolation (e.g., typical/topical). Third, synophones may also be troublesome when the distinguishing phoneme is present in one of the words but absent in its counterpart (e.g., tempt/attempt) (Laufer, 1981). Synophones differing in more than one phoneme cause difficulty in two ways. In the first of these, synophones contain an identical Latin root which has no independent meaning in present-day English. Laufer (1981) provides these examples to show that when this root is combined with different prefixes, it obtains meaning (e.g., application/implication /complication). In the second way, synophones can have a root with more than one meaning. This type of root is meaningful in itself and combines with different suffixes (e.g., comprehensive/comprehensible) (Laufer, 1981). "Finally, there is a large category of synophones differing in several phonemes which, by its nature, defies exact

definition (e.g., conceal/cancel; dispose/dispossess)" (Laufer, 1981, p. 298).

Although synophones contain the problem of similar sounds between words, there can also be a graphic resemblance. Synforms (similar lexical forms), like synophones, can be similar in sound (e.g., cute/acute; available/valuable; conceal/cancel; price/prize). In addition, synforms are morphologically similar (e.g., economic/economical; industrious/industrial; reduce/deduce/induce) (Laufer, 1989).

More specifically, difficulties caused by synformic confusions (when two words look the same but are different) have two sources. In the first case, a student may have learned a word but its representation in memory is not clear. Another word which shares most of the same features as the first word, might appear identical to it. In the second case, confusion may result when the student has studied both synforms but his/her knowledge is insecure. The confusion occurs when the student is not sure "which word form is associated with which meaning" (Laufer, 1989, p. 13). In either case, misinterpreting one synform as its counterpart is the result.

Technical, Non-technical, and Other Low-Frequency Words

Technical and non-technical words used in scientific contexts have similarities according to how they are used, but have differences in origin. Technical words originate

from the lexis of science. These technical words are used when there is a congruity of concept among scientists. Godman and Payne, (1981), p. 24) provide an example, "The term **electron** describes a hypothetical entity with detailed properties, different aspects of which may be emphasized in the definition depending on whether one's context is physics or chemistry."

In contrast, non-technical words originate from the vast reservoir of common language terms. However, non-technical terms are similar to technical terms in that they, too, are used in a technical sense. Non-technical words, then, are words which have a "more limiting definition in their use in scientific statements. The terms are given a precise meaning and are thus 'purged of the ambiguity and vagueness of their meaning'" (Godman and Payne, 1981, p. 28). One way this can be done is by grouping verbs that are concerned with matter and those that are associated with place. In such a case, "**vacate** focuses on the place after an object has been removed; **evacuate** focuses on the place after all matter has been removed and emphasizes that nothing remains" (Godman and Payne, 1981, p. 28).

Bramki and Williams (1984) suggest that ESL/EFL students will have difficulty understanding technical vocabulary in reading. The reasons for this could be that

technical vocabulary is specialized to a specific context and often has a complex side to its meaning.

Others disagree by stating that teaching technical vocabulary is not the job of the English teacher (Higgins cited in Bramki and Williams, 1984). Instead, students will learn technical vocabulary in their main courses of study (Robinson cited in Bramki and Williams, 1984). In addition, teachers of English for specific purposes (ESP) may not know enough about the subject matter to properly deal with technical vocabulary (Moody cited in Bramki and Williams, 1984).

Based on his study in preparing word lists, Lynn (1973) agrees with Higgins that English teachers should not teach technical vocabulary. The results of an investigation into the terms students found most difficult did not consist of technical words. In Lynn's study, the terms students annotated in their textbooks were the non-technical terms from the academic register. In other words, English text-book terminology presented greater problems for these students than technical terminology from the scientific register. Some examples of non-technical terms from the academic register would be: **appraise** (as in, "appraising the significance of") and **compensate** (as in, "factors which compensate for") (Lynn, 1973). Similar findings were made by Inman (1978) who developed frequency counts for a scientific/technical text composed of 114,460

words covering 10 scientific and engineering disciplines. This study found that non-technical vocabulary should be a primary focus in teaching scientific and technical English. Technical vocabulary is best left to presentation through the discipline itself. The reason for this is that not only are teachers of scientific and technical subjects generally better able to handle technical terminology, but also "because of its concrete and frequent one-to-one correspondence to terms in the students' native language, technical vocabulary does not present that great a language problem" (Inman, 1978, p. 248).

Non-technical terms, then, are general language items whose basic meanings have been made more precise in scientific statements (Godman and Payne, 1981). Because of this precise specification of common language terms, these words in a scientific statement may be misunderstood. An "incorrect or imperfect understanding of the function of the verbs in a piece of text is, in our experience, one of the greatest obstacles to the comprehension of scientific statements" (Godman and Payne, 1981, p. 31).

According to linguistic theory, technical and non-technical terms are related to a larger category called "low-frequency words" (Inman, 1978). Low-frequency words cause problems because of the students' limited exposure to them. A careful study of word frequency demonstrates that there are very few high-frequency words, a small number of

medium-frequency words, and a very large number of very low-frequency words (Twaddell, 1973). Furthermore, Haynes (1983) points out:

> Since most words in a language have only a low frequency of occurrence, dictionary precision and list memorization cannot ever provide language students with enough vocabulary to understand all the words they encounter while reading. (p. 164)

False Cognates

A cognate is a word which has the same or almost the same form with the same or similar meaning in the target language as in the language of the learner. In contrast, false cognates are words which have the same form in both languages but have different meanings in the two languages. For example, **asistir** in Spanish does not mean "assist" in English, as one might guess, but "attend." **Simpatico** does not mean "sympathy," as in feeling sorry for someone, but "feeling with" someone (Gidmark, 1982). Since most cognates with English are found in Romance languages, students from these language backgrounds may have the most difficulty in learning which English words are true cognates and which are not. However, as learners encounter these words in a wide variety of contexts, they should gradually build up a profile of meaning for the word. This should help learners to relate the word to its near neighbors in terms of closeness or remoteness to the core meaning for the word (McCarthy, 1990). Students should be taught about false cognates because uncritical acceptance of cognates as

guides to meaning can cause confusion for students when they guess meaning in reading.

Polysemous Words

Perhaps one of the more difficult categories of words for L2 students is that of polysemous words. A polysemous word is "a single lexical item with multiple senses, each of which is a part of the meaning potential of the word but only one of which will (usually) be actually realized in any particular context" (McCarthy, 1990, p. 23). Following this view is the possibility that several senses of a word might be of equal importance in the mind of either the learner or the teacher. For this reason, frequency, usefulness, psychological relevance, and many other factors may influence the decision about what needs to be learned and when (McCarthy, 1990).

A second reason for the difficulty of polysemous words can be illustrated by dictionary definitions. Of the first 1000 words on the Thorndike Word List, the Oxford English Dictionary contains 25,000 definitions (Gabbay and Mirensky, 1984). Obviously, even learning some of the multiple meanings for the 1000 most frequent words is a formidable task for any second language learner.

A third reason for difficulty is that polysemous words are often the heavily used words in a language. Several examples of polysemous words are **have**, **get**, **make**, **do**, and

fix. The following are just eight of the many uses of the word get (Celce-Murcia and Rosensweig, 1979):

> to get a job (to obtain a job)
> to get hired (to be hired)
> to get a good grade (to achieve a good grade)
> to get heavy (to become heavy)
> to get the ball (to fetch the ball)
> to get him to walk (to make him walk)
> to get it (to purchase it, to understand it)
> to get there (to be successful, arrive at a destination) (p. 252)

Although this is not a complete list, it demonstrates that heavily used words can be difficult to master. However, learning the principal uses of a word such as **get** is a key to mastering English vocabulary.

A fourth reason for the difficulty of polysemy is that students often know only one meaning of a polyseme and fail to abandon it even when its meaning is different in a particular context (Laufer, 1989). The mistaken assumption on the part of the student is that the familiar meaning is the only meaning.

A final reason for difficulty can be explained by a recent nontraditional concept of polysemy. Kerim-Zade and Pavlov (1989) suggest that one aspect of the organization of the English lexicon is "semantico-functional variability."

> This is understood as a derivational process, but occurring at the level of subclasses of parts of speech, a process whereby a lexical unit comes to belong to a semantico-functional subclass and, while retaining components of lexical meaning, acquires new categorical semantic characteristics (p. 382).

A subclass of verbs, for example, could be transitive or intransitive.

In order to better understand semantico-functional variability and subclasses of parts of speech, examples and explanations will be provided. Let us consider the following sentences (Kerim-Zade and Pavlov, 1989):

1. John swallowed his soup.
2. John swallowed his grief.
3. John frightened his friend.
4. The horse did not frighten at all. (p. 383)

In sentences 1 and 2, two different senses are expressed by the verb **swallow** from the viewpoint of lexical semantics. The first describes the consumption of food, while the second suggests the endurance of sorrow. However, in each sentence, **swallowed** possesses the same grammatical function: in both uses the verb is transitive.

In contrast, sentences 3 and 4 contain verbs that differ grammatically. The verb **frighten** in sentence 3 is transitive, while in sentence 4 it is intransitive. In addition, the semantic roles of the two sentences' subjects are different. The subject in sentence 3 is the causer and could be either animate or inanimate. In contrast, the subject of **frighten** in sentence 4 cannot be an inanimate subject. "The two lexical units of the lexeme **frighten** belong to two different subclasses within the grammatical class of verbs (causative and transitional event verbs) but share the same component of lexical

meaning: they both express the idea of fear" (Kerim-Zade and Pavlov, 1989, p. 383).

As mentioned ealier, Kerim-Zade and Pavlov's (1989) research indicates that the subtle differences within a lexeme can be categorized into classes and subclasses.

> It is important to emphasize here that the basis of categorization into semantico-functional classes and subclasses depends upon three fundamental criteria: (1) categorical meaning; (2) syntactic function; and (3) the type of linguistic unit which the [word] relates to. (p. 385)

The significance of this research is a breakthrough in developing an organizational structure for polysemous words which could result in developing a way to teach them systematically.

Idioms

A category of difficult vocabulary whose meaning is not immediately apparent is the idiom. "An idiom is a sequence of words which operates as a single semantic unit" (Gairns and Redman, 1986, p. 35). Its meaning cannot be grasped simply from an understanding of the ordinary meaning of its parts. Idioms are often syntactically or grammatically restricted (Gairns and Redman, 1986).

Idiomatic expressions can cause immense difficulty in reading. Students may not recognize them as idioms because of the difficulty in distinguishing idioms from regular forms of the language (Twaddell, 1973). Students who do not recognize an idiom when reading, attack the expression

word-by-word. Indeed, this is a useless strategy since piecing together the individual words does not yield the intended meaning of the expression. Since idioms often defy an explanation or definition, they are better understood in the context in which they present themselves (Celce-Murcia and Rosensweig, 1979). Gairns and Redman (1986) further suggest that idioms should be taught as they arise and be emphasized according to their usefulness. Usefulness can be determined by whether or not the idiom can be incorporated into the students' productive vocabulary without seeming to be inconsistent with the rest of their productive language.

Compounds

"Compound words are composed of two smaller words joined together. They originated to define a new or different concept" (Narang, Motta, and Bonchard, 1974, p. 14). There are three different types of compounds: (1) adjective compounds (e.g., hard-working, time consuming, short sleeved) (2) verb compounds (e.g., to babysit, to sightsee), and (3) noun compounds. In this last type, there are three main patterns: (a) base noun + noun (e.g., a coffee jar, table tennis, horserace) (b) possessive noun + noun (e.g., my girlfriend's brother), and (c) prepositional structures (e.g., a look of fear, the end of the line) (Gairns and Redman, 1986).

Compounds, like other types of polysemous words, may cause difficulty for L2 readers because their total, full composite meaning is different from the primary meaning for each word. Like idioms, their meaning cannot always be deduced from analyzing each word and putting these meanings together (e.g., firearm, nightmare, worrywart, seesaw).

Multi-Word Verbs

These verbs are similar to their noun compound counterparts in that they consist of two or sometimes three parts (Gairns and Redman, 1986):

> a) A 'base' verb and preposition, e.g., **look into** (investigate), **get over** (recover from).
>
> b) A 'base' verb and adverbial particle (phrasal verb), e.g., **break down** (collapse), **call off** (cancel).
>
> c) A 'base' verb and adverbial particle and a preposition, e.g., **put up with** (tolerate). (p. 33)

As these examples illustrate, there are many verb and preposition combinations and phrasal verbs whose meanings are not clear from their constituent parts. In addition, numerous phrasal verbs have multiple meanings. For instance, **pick up** can mean lift, acquire, collect, etc. (Gairns and Redman, 1986). As with compounds and idioms, the difficulty in reading comes from accessing only primary meanings, which does not contribute to the real meaning of the word or phrase.

One possible solution for teaching some two-part verbs can be found by an understanding of the implied metaphorical reference. Lakoff and Johnson (cited in Nattinger, 1988) claim that metaphors have grown out of the relationship between ourselves and our physical environment. One example of an "orientational metaphor" is that **more** means "up" and **less** means "down". This concept arises from the idea that if more is added to a pile, it goes up, and conversely, if something is taken away, it goes down. This type of metaphor can be expressed by the following two-part verbs (Nattinger, 1988):

> The number keeps going up.
> Turn up the heat.
> Turn down the radio. (p. 74)

To present another orientational metaphor, "having control" means "up" and "being subject to control or force" means "down". Some examples of this metaphor are (Nattinger, 1988):

> I have control over her.
> I am on top of the situation.
> He ranks above me in strength.
> He is under my control.
> He is below me on the administration. (p. 75)

The significance of teaching orientational metaphors is that this technique provides a framework for teaching and understanding multi-word verbs.

Abstract Words

Abstract words do not have direct sensory referents and imagery, as do concrete words. Abstract words often

represent complex concepts and, as a result, are difficult to comprehend. Nevertheless, "learners will almost certainly require conceptually difficult vocabulary to meet their own language needs, regardless of whether they are beginners or extremely advanced" (Gairns and Redman, 1986, p. 16).

Abstract word difficulty occurs because abstract words usually take longer to read and verify. The concept that concrete words are processed more quickly than abstract words is referred to as "concreteness effects." This means that concrete words are easier to comprehend because they have direct sensory referents which enable students to better access mental images (Schwanenflugel and Stowe, 1989). In contrast, abstract words are hard to understand because these words represent concepts that do not necessarily have a pictorial representation. Therefore, abstract words are processed more slowly than concrete words.

In addition, comprehension difficulties with abstract words can also occur when these words are encountered in contexts with few clues available by which to determine their meaning. Context availability (i.e., the availability of information in the context to enable the comprehension of a word) predicts that difficulty in comprehending abstract words should be relieved when these words are presented in a supportive context.

Schwanenflugel and Stowe (1989) conducted studies which showed that when abstract words were presented in a supportive or meaningful context, readers had less difficulty with them. However, the context availability view also predicts that comprehension will be slow when readers have difficulty in retrieving information from prior knowledge. Readers can experience difficulty in retrieving contextual information for abstract words because their access to related prior knowledge is weak or indirect (Schwanenflugel and Stowe, 1989).

The Location and Frequency of Difficult Vocabulary

In addition to the categories mentioned above, the location and frequency of difficult vocabulary can impede text comprehension. Difficult vocabulary may appear in positions of varying importance within a text. A position obtains importance from a number of sources: a reader's background knowledge, the height of a position in the ideational hierarchy of a text (i.e., the degree of importance an idea is given within the text), and the words authors use to signal items of importance (Freebody and Anderson, 1983).

When a difficult vocabulary item appears in an important position, it tends to diminish a student's performance in free-recall and recognition tests of comprehension. Important positions act as "major conceptualizations" and aid in the recall of less important details (Freebody and

Anderson, 1983). The appearance of difficult vocabulary in trivial positions, on the other hand, causes students to concentrate more on the important positions and skip over the less significant positions (Freebody and Anderson, 1983). Therefore, difficult vocabulary in important positions is a significant comprehension problem for L2 students because they will not be able to understand the text.

Frequency of difficult vocabulary in a text also affects comprehension. Researchers have been studying the question of what is the optimal ratio of unknown to known words in a text. Generally, the higher the ratio of difficult words, the greater the difficulty in comprehending the text will be. Freebody and Anderson's (1983) research indicates that a high proportion of difficult vocabulary (one in three to one in six content words) will produce reliable decrements in performance in measures of text comprehension. This means that test performance deteriorates in a consistent and reliable way when one substance word in three is replaced by a low-frequency synonym. In a similar study, Stahl et al. (1989) found that the substitution rate of one out of every six content words with difficult vocabulary was sufficient to impair comprehension.

As has been illustrated in this chapter, a difficult vocabulary item can be any word which impedes text comprehension. It affects the recall of central and supporting information, the recall of answers to textually explicit

questions, and the recall of the major order of events. Difficult vocabulary also impacts the comprehension of semantic relationships. These relationships involve how words of similar meaning relate to other words and in what contexts. The location and frequency of difficult vocabulary in important positions diminishes free-recall and recognition in comprehension tests.

In order to improve a student's comprehension of difficult vocabulary, teaching strategies should be employed to guide students over these difficulties. However, it is first necessary to understand the theories behind such strategies. In the next chapter, these theories will be presented.

CHAPTER THREE

THEORETICAL CONSIDERATIONS IN TEACHING DIFFICULT VOCABULARY

There are several theoretical considerations in teaching difficult vocabulary in reading. First, three models of the reading process will be given to provide some background to the review of the theoretical literature. Next, there will be a review of language acquisition theory based on information processing. This will provide the basis for three theoretical approaches: the theory of automaticity, schema theory, and the theory of guessing. Then, an additional theory, the theory of direct instruction, which was developed from field research, will be presented. Finally, the distinctions between explicit vocabulary instruction and reading skills instruction will be explained. Both of these instructional approaches are indicated by at least one of the theoretical approaches mentioned above.

Three Models of the Reading Process

Three models of the reading process have been developed. The first model, called "bottom-up," views reading as a process in which the reader learns to recognize letter symbols, morphological units, individual words, syntactic units, sentences, and, finally, discourse units. The bottom-up model is the process of starting with the smaller

units of information (letters, morphemes, words) in a text and then working up to the larger units of the text (sentences, discourse units). A good reader learns to recognize the types of codes, how they fit into higher level units, and how they function in conveying meaning (Duran, 1984).

The second model is referred to as "top-down." It presents the reading process as attending to the organization of ideas and meaning in the text. Instead of searching through minute details, the efficient top-down reader has developed skill in selecting the fewest, most productive cues to make correct guesses at meaning (Dubin, Eskey, and Grabe, 1986). The top-down model emphasizes interpretive skills and does not regard the text as important in itself.

Related to these two models is a third, interactive model which draws on both top-down and bottom-up models of processing. It suggests that good readers are better not only at recognizing codes, but also at interpreting texts. Although good readers predict as they read, they also identify forms automatically. This third model incorporates both the discourse processing strategies of the top-down model and the word recognition strategies of the bottom-up model and is therefore called "interactive."

Information Processing

Information passes through several steps before it can be understood. In reading, this process could be described as the journey words take from their written form on the page to their being understood in the reader's mind (LaBerge and Samuels, 1985). The theory of automaticity, schema theory, and the theory of guessing each present a distinctly different view of the processing of information in reading.

Theory of Automaticity

LaBerge and Samuels's theory of automaticity (1974, 1976, 1985) is based on their research in information processing. They claim that deriving meaning from a written form on a page is an activity that requires several stages of information processing. These stages are referred to as subskills within the complex skill of reading. If each subskill requires attention, the performance of the complex skill (i.e., reading itself) will be adversely affected because the reader's attention span will be exceeded. However, if subskills can be processed automatically, then the attention demand on the reader will not be so great as to impede the reading process.

LaBerge and Samuels (1976) claim that the main properties of attention are selectivity and capacity limitation. Selectivity refers to the way attention is directed. They state, "All well-learned stimuli are processed upon presen-

tation into an internal representation, or code, regardless of where attention is directed at that time" (p. 690). However, they also note that attention can "selectively activate codes at any level of the system, not only at the deeper levels of meaning, but also at visual and auditory levels nearer the sensory surfaces" (p. 690).

Capacity limitation, on the other hand, refers to the number of codes that can be activated by attention at any given moment. According to the theory, capacity limitation is sharply limited to one code at a time. In contrast, "the number of codes which can be simultaneously activated by outside stimuli independent of attention is assumed to be large, perhaps unlimited" (LaBerge and Samuels, 1976, p. 690). In simplified terms, the mind can only pay attention to one thing at a time, but might be able to process numerous things at a time so long as not more than one requires attention.

Therefore, the ability to process written forms automatically is considered necessary for the successful performance of complex skills such as reading. As words are perceived visually, they are processed through stages until they are understood. In successful processing, each subskill is processed automatically. Transitions from one subskill to another must also be automatic. Under these conditions, a complex skill can be called automatic. The criterion for the automaticity of a skill or subskill "is

that it can complete its processing while attention is directed elsewhere" (LaBerge and Samuels, 1976, p. 691).

Access Hypothesis

The access hypothesis is theoretically linked to the theory of automaticity (Miller, 1987), because it stresses that reading is developed by an increase in the automatic processing of written forms. Automatic processing results from an overlearning of letters, symbols, and words. By developing a quick and accurate response to print, the reader need not focus his/her attention on the task of decoding. As words are processed automatically, attention can be directed toward comprehension. Miller (1987, p. 39) says that "if comprehension depends in part on facile access to word meaning, then vocabulary instruction ought to facilitate reading comprehension." Reading comprehension can be enhanced by "accuracy (knowing word meanings), fluency (speed of lexical access), and richness (amount of practice)" (1987, p. 39).

Schema Theory

Schema theory (Rumelhart, 1980), also a theory of human information processing, is about knowledge, how it is represented and how it is used. Knowledge is said to be packaged into units. Inside each unit is both the knowledge itself and the information needed to use it. In this way, a schema can be seen as a system for representing

generic concepts in the memory. A schema is made up of the network of interrelations that normally holds for the components of the concept being considered. Schema theory also includes a theory of meaning. That is, as a schema supports a concept, it also corresponds to the meaning of that concept. Meanings, in turn, are encoded in terms of the typical or normal situations that provide a concrete instance of the concept.

According to Rumelhart (1980), schema theory contains six major features:

1. Schemata have variables.
2. Schemata can embed, one within another.
3. Schemata represent knowledge at all levels of abstraction.
4. Schemata represent knowledge rather than definitions.
5. Schemata are active processes.
6. Schemata are recognition devices whose processing is aimed at the evaluation of their goodness of fit to the data being processed. (p. 40-41)

Since schema theory holds that knowledge is stored in memory and is activated to comprehend present circumstances, a description of the activation process is necessary. Two types of activation have been proposed: conceptual-driven and data-driven. When a schema activates a subschema, it is considered conceptually driven activation. This type of activation runs by expectation; that is, as subschema are activated, their activation comes from an expectation that they will be able to account for some part of the input data. On the other hand, when a schema is activated by a subschema, it is called data-driven acti-

vation. Conceptually driven activation goes from whole to part, while data-driven activation goes from part to whole.

In addition, schema theory contains several major functions: perception, understanding discourse, remembering, and learning. Perception is an interactive process in that the interpretation of incoming information is most often determined by whole-to-part and-part-to-whole processing. The process of understanding discourse is a process of finding a pattern of schemata that provides a sufficient explanation for the passage. Rumelhart (1980, p. 47) states that "clues from the story suggest possible interpretations (instantiations of schemata) that are then evaluated against the successive sentences of the story until finally a consistent interpretation is discovered." Remembering consists of two aspects: the forming and the reconstruction of memory. That is, schemata first make initial impressions and determine the form of the memory. Then, when new data have been supplied, schemata reinterpret the stored information to reconstruct the original interpretation. Finally, there are three modes of learning in a schema-based system: accretion, tuning, and restructuring. Accretion refers to the fragmentary memories which are the basis of recollection of the original situation. Tuning corresponds to the upgrading of variables within schemata by adding a new variable to make the schema either more general or more specific. Restructuring

is the creation of a new schema by copying an old one and making a few modifications (patterned generation).

Background Knowledge

In schema theory, reading comprehension is seen as an interactive process between the text and the reader's background knowledge. Background knowledge refers to previously acquired structures known as schemata. New information encountered in reading acquires meaning only when it is related to what the reader already knows (i.e., his/her schemata). By accessing background knowledge, the reader brings meaning to the text. This is in contrast to traditional reading theory, which says that meaning is found in the text. Therefore, according to schema theory, the text does not have meaning in itself. Instead, it provides directions for readers to construct meaning based on their own background knowledge (Carrell and Eisterhold, 1983).

Knowledge Hypothesis

The knowledge hypothesis is theoretically linked to Rumelhart's (1980) schema theory (Miller, 1987) because it suggests that knowledge is organized hierarchically and that teaching students the relationships between their prior knowledge and new ideas will promote the learning of new ideas and the vocabulary associated with these concepts. According to Miller (1987, p. 40), "the distinctive curriculum implication of the knowledge hypothesis is that

new vocabulary ought to be learned in the context of acquiring new knowledge." The vocabulary instructional practice determined by the knowledge hypothesis suggests that words should be taught in the context of teaching concepts, that students' background knowledge should be utilized, and that use of discussion before reading should also be provided.

Theory of Guessing

The theory of guessing is a reaction against the opinion of reading as a precise process, that is as a process which, in Goodman's (1976, p. 497) words, "involves exact, detailed, sequential perception and identification of letters, words, spelling patterns, and large language units."

In contrast to this, Goodman suggests that reading is a selective process. A reader makes partial use of the language of a text. Only minimal cues are selected based on the reader's expectation. According to Goodman, reading is a "psycholinguistic guessing game." In this view, efficient reading occurs when skillful selection of the fewest and most productive cues produces correct guesses upon the first attempt.

Goodman's model of the "psycholinguistic guessing game" describes how the selection process may occur. However, the steps may not take place in a sequential or stretched-out order, as they are presented here (Goodman, 1976):

1. The reader scans along a line of print from left to right and down the page line by line.
2. He fixes at a point to permit eye focus. Some print will be central and in focus, some will be peripheral; perhaps his perceptual field is a flattened circle.
3. Now begins the selection process. He picks up graphic cues, guided by constraints set up through prior choices, his language knowledge, his cognitive styles, and strategies he has learned.
4. He forms a perceptual image using these cues and his anticipated cues. This image is partly what he sees and partly what he expected to see.
5. Now he searches his memory for related syntactic, semantic, and phonological cues. This may lead to selection of more graphic cues and to reforming the perceptual image.
6. At this point, he makes a guess or tentative choice consistent with graphic cues. Semantic analysis leads to partial decoding as far as possible. This meaning is stored in short-term memory as he proceeds.
7. If no guess is possible, he checks the recalled perceptual input and tries again. If a guess is still not possible, he takes another look at the text to gather more graphic cues.
8. If he can make a decodable choice, he tests it for semantic and grammatical acceptability in the context developed by prior choices and decoding.
9. If the tentative choice is not acceptable semantically or syntactically, then he regresses, scanning from right to left along the line and up the page to locate a point of semantic or syntactic inconsistency. When such a point is found, he starts over at that point. If no inconsistency can be identified, he reads on seeking some cue which will make it possible to reconcile the anomalous situation.
10. If the choice is acceptable, decoding is extended, meaning is assimilated with prior meaning, and prior meaning is accommodated, if necessary.
11. Then the cycle continues. (p. 507-508)

Guessing Hypothesis

The guessing hypothesis is theoretically linked to Goodman's (1976) theory of guessing because it holds that since readers make selections based on their prior

knowledge and expectations, they should be directed toward clues which are the most productive in guessing meaning. In addition, because readers guess from context clues and focus on meaning, they do not depend on vocabulary development. Thus, the guessing hypothesis proposes guessing the meaning of unknown words from context and advocates the teaching of reading skills rather than vocabulary development.

Field Research

In 1967, a project was organized to select, test, and evaluate different educational programs for disadvantaged youngsters. After ten years of evaluating field research programs, the direct instruction program was rated the best. It was found to produce "significant gains in measures of positive affect, basic skills, and conceptual reasoning" (Becker, 1977, p. 518). When applied to the teaching of reading and language skills, the direct instruction program advocates systematic vocabulary instruction.

Theory of Direct Instruction

The theory of direct instruction originated from research conducted to enable disadvantaged children in the first three grades to catch up to the national average. The theory "emphasizes small group, face-to-face instruction by a teacher using carefully sequenced, daily lessons

in reading, arithmetic, and language" (Becker, 1977, p. 521).

According to Becker, seven essential teaching principles make up the structure of the theory. First, generalities are taught so that children can classify ideas. Second, the number of classroom instructors is increased which reduces the student-to-teacher ratio. By adding teachers' aides, more instruction can be given. Third, the program for each day is carefully structured. Fourth, fast-paced, teacher-directed instruction is a means to individualize instruction for the non-reader. Fifth, positive teaching approaches are used to get and hold student attention, reinforce correct responses, and point out mistakes. Sixth, careful training and supervision of the teaching staff ensures that the desired skills are taught and maintained. Seventh, student progress is monitored bi-weekly in order to detect and correct learning deficiencies.

In addition, the direct instruction theory advocates the use of a scripted presentation of lessons, signals, and small group activities in instruction. Scripted presentations (scripts) of explicitly detailed lessons have certain advantages. Scripts, complete with words and examples, save the teachers' preparation time, enable them to make effective presentations, and provide them with avenues for quality control and program standardization. As a further advantage of scripts, signals can be written into the

scripts to direct the teacher how and when to cue a group or small groups to respond.

According to the theory of direct instruction, vocabulary and concept knowledge play an important role in reading comprehension. The building blocks crucial to this are words and their references. Further, the theory specifies objectives that "can be taught as general-case strategies for decoding in reading . . . and making logical inferences" (Becker, 1977, p. 540). Finally, the theory emphasizes expanding vocabulary knowledge as the prescription for improved reading comprehension.

Instrumental Hypothesis

The instrumental hypothesis is theoretically linked to Becker's (1977) theory of direct instruction (Miller, 1987) because it views direct vocabulary building exercises as the primary way to better reading comprehension. Increasing vocabulary knowledge through vocabulary building exercises is a key ingredient in the instrumental hypothesis. Therefore, "the instrumental hypothesis suggests teaching as many words and their definitions as possible in order for comprehension of text to be gained" (Miller, 1987, p. 40).

Summary of Theoretical Considerations

On the whole, the four theories present views which help to explain how the mind works in language acquisition

and how that affects reading comprehension and vocabulary acquisition. The practical outgrowth of these theories, as implied by the four hypotheses, ranges from precise perception of symbols (bottom-up processing) and overlearned or automatic processing of graphic representations, to selectivity of language cues to form guesses at meaning (top-down processing). The position adopted in this thesis is that, taken together, these four theories lead to two instructional approaches: either explicit vocabulary instruction or reading skills instruction. It is clear that the guessing hypothesis emphasizes reading skills and does not advocate vocabulary instruction. On the contrary, the access hypothesis, knowledge hypothesis, and instrumental hypothesis all stress some form of explicit vocabulary instruction and do not teach reading skills as a means to learn vocabulary.

Explicit Vocabulary Instruction vs. Reading Skills Instruction

Each of the four theories presented earlier suggests a hypothesis for instruction. From the hypothesis, strategies can be developed for teaching difficult vocabulary. As mentioned above, an evaluation of the strategies related to each of the hypotheses reveals two distinct instructional views: explicit vocabulary instruction and reading skills instruction. Both instructional views have their advantages and disadvantages.

Explicit vocabulary instruction involves developing specific components in lessons designed to build vocabulary knowledge. In contrast, reading skills instruction develops skills that promote reading ability and attempts to resolve the problem of difficult vocabulary by training students in the skill of contextual guessing. Both views tend to be mutually exclusive.

There are several advantages in explicit vocabulary instruction. New vocabulary selected within the parameters of the students' grammatical knowledge can be combined with the rest of the instructional plan (Judd, 1978). Also, the direct teaching approach presents vocabulary in a systematic and logical manner (Judd, 1978). Moreover, since Haynes (1983) suggests that rapid and precise recognition of graphic symbols and words must be mastered before fluent reading can occur, word unit processing is a major component of reading.

However, there are also disadvantages in explicit vocabulary instruction. One strategy, the "dictionary look up" method, tends to be time consuming and breaks the train of thought in reading comprehension. Goodman believes that a precise process of reading theory is based on common sense rather than on scientific concepts of language. His view is entirely based on a top-down model of reading. Explicit vocabulary instruction does not sufficiently account for top-down processing in its instructional strategies.

Like explicit vocabulary instruction, reading skills instruction also has advantages and disadvantages. Twaddell (1973) suggests that sensible guessing is a natural way to comprehend unfamiliar words by using the total context. In making sensible guesses, a reader uses not only lexical clues but grammatical and pragmatic clues as well. Swaffar (1988) furthers this view by citing a study by Saragi, Nation, and Meister, who found that students did learn words incidentally through extensive reading. Reading skills instruction follows a top-down model which promotes reading for meaning.

Unfortunately, reading skills instruction has some disadvantanges as well. Gabbay and Mirensky (1983) argue that context is not the only factor in vocabulary recognition. Guessing from context can be impeded when (1) L2 learners have wrong "preconceived notions" about vocabulary, (2) there is an overload of new vocabulary in the context, (3) the context is devoid of clues, (4) a large gap exists between the clues and the target word, or (5) students twist clues to fit their own conception of the unfamiliar vocabulary item. Haynes (1983) adds that longer contexts increase guessing difficulty. Finally, Bensoussan and Laufer (1984) report that some researchers found that certain categories of words (technical terms, multisyllabic words, abstract words, and polysemous words) make it difficult to guess the meanings of words in these categories.

Each of these instructional approaches follows an opposite view of the reading process. More effective vocabulary acquisition might result from utilizing the advantages of both approaches and minimizing the disadvantages. That is, instructors could present vocabulary in various contexts and use a combination of strategies related to different hypotheses. At the same time, they could select texts which avoid the disadvantages mentioned above for reading skills instruction. If instruction were provided in both bottom-up and top-down processing strategies, L2 learners would have the advantage of utilizing the strengths and insights of each instructional approach.

In this chapter, the four major theories impacting the development of vocabulary teaching strategies have been discussed. Furthermore, the relationship between theory and hypothesis has been established. In the next chapter, instructional strategies which derive from each of the four hypotheses will be presented.

CHAPTER 4

STRATEGIES FOR TEACHING DIFFICULT VOCABULARY

Chapter Three provided the theoretical basis for the teaching strategies to be discussed in this chapter. Here, various strategies for teaching difficult vocabulary will be presented. Under each heading the types of difficult vocabulary which are impacted by the strategy (e.g., idioms) will be indicated. Where no particular type is referenced, the subheading "all categories of difficult vocabulary" will be given. The two major divisions of this chapter reflect the two main approaches to vocabulary acquisition in reading: explicit vocabulary instruction and reading skills instruction.

It has been said, "Suppose one of you wants to build a tower. Will he not first sit down and estimate the cost to see if he has enough money to complete it?" (Holy Bible, New International Version, Luke 14:28, p. 778). I quote this to point out that a language teacher must have a strategy for accomplishing his/her goals. More specifically, the goal of teaching difficult vocabulary in reading requires skillful planning and the successful application of one or more strategies.

In the literature concerning reading comprehension and difficult vocabulary, the term "strategy" seems to be used in two ways. In the first sense, a strategy is a method or exercise used by the teacher either to teach vocabulary explicitly or to teach reading skills. In the second, it is a plan of learning employed by students to comprehend difficult vocabulary.

Teaching and learning strategies are different because of the way they are used. A teaching strategy is one employed by the teacher to instruct students in the acquisition of knowledge in a particular area. In this case, it is a strategy used by the teacher to help students deal with the problem of difficult vocabulary in reading. One example of a teaching strategy is "affix mastery." The teacher helps the students learn to use their knowledge of affixes to figure out the meanings of difficult words.

On the other hand, learning strategies are planned learning devices developed by the student. An example of this is the "read and mark" strategy. As a student reads, he/she marks recurring words that are unknown, then learns them later by use of a dictionary or by other means. However, some teaching strategies may carry over into the student's learning strategy repertoire.

Explicit Vocabulary Strategies

Explicit vocabulary instruction usually follows the method of teacher-directed learning. The primary reason for this is that teachers can often predict the potential vocabulary difficulties of the class (Brutten, 1981). However, some peer-teaching and small group work is often useful as a part of explicit vocabulary instruction. Second, the curriculum design is characterized by specific lesson plans that are systematically sequenced and structured to develop a knowledge of difficult vocabulary (Becker, 1977). Third, the instruction involves preteaching of difficult vocabulary before reading (Nation and Coady, 1988), meaningful presentation of vocabulary in situations and contexts (Schouten van Parreren, 1989), meaningful practice which includes both oral and written exercises and daily use of difficult vocabulary from the reading (Carter and McCarthy, 1988), regular and constant review of difficult vocabulary (Judd, 1978), some dictionary use, and the use of visual teaching aids. Fourth, the selection of difficult vocabulary may come from a word-frequency list, a teacher's prediction of word difficulty, or the students' selection of difficult words. Finally, the literature indicates that explicit vocabulary instruction appears to increase students' command of vocabulary in general (Bensoussan and Laufer, 1984).

In addition, the three hypotheses (i.e., instrumental, access, and knowledge) associated with explicit vocabulary instruction will be presented under this section. Each hypothesis was linked to a theory in Chapter Three, following Miller's (1987) classification. First, the instrumental hypothesis is related to the theory of direct instruction. This hypothesis suggests that vocabulary knowledge is increased by direct instruction in vocabulary exercises and is based on the notion that knowing words prior to reading increases comprehension. Second, the access hypothesis is linked to the theory of automaticity and emphasizes the importance of speed in decoding and comprehension. Rapid decoding speed (automaticity) results from advanced familiarity with letters and words and exhibits a rapid and accurate response to print. Automaticity of decoding allows for greater attention to be spent on comprehension. Reading comprehension, in this view, depends on rapid access to word meanings. Third, the knowledge hypothesis is based on schema theory. Schema theory says that knowledge is hierarchically organized and that teaching students the relationships between their prior knowledge and new concepts helps them learn the new concepts and the associated vocabulary. The knowledge hypothesis suggests, then, that relating prior knowledge to the text helps to improve the students' comprehension. An implica-

tion of this hypothesis is that new vocabulary should be learned in the context of acquiring new information.

Each hypothesis implies a different vocabulary teaching practice to improve reading comprehension. The instrumental hypothesis suggests that teachers should teach as many words and their definitions as possible. The access hypothesis recommends teaching students to recognize words to an automatic level. The knowledge hypothesis suggests teaching vocabulary at the same time as teaching new concepts, helping students to use their prior knowledge, and using discussion before reading as ways to improve comprehension (Miller, 1987).

Instrumental Hypothesis

Dictionary Look Up

All categories of difficult vocabulary. There are several reasons why "dictionary look up" can be helpful in developing students' vocabulary. To begin with, for lower-level students who have a very limited vocabulary knowledge, looking up an unfamiliar word in a dictionary is a quick solution. Second, although guessing from context is popular, consulting a dictionary can be a more efficient strategy than agonizing over a word to try to determine its meaning from the context (Haynes, 1983). Third, in reading, students need to know when to skip over an unknown word and when to get help from a dictionary (Haynes, 1983).

Finally, dictionary use in understanding words is helpful for extending learning beyond the classroom (Allen, 1983).

Even though most students are familiar with a dictionary (at least in their native language), the "dictionary look up" strategy should not be considered simply a mechanical process. It should not be the last resort for solving a difficult word's meaning in reading. On the contrary, by applying the "dictionary look up" strategy the student considers several hypotheses and utilizes his or her prior knowledge to locate the appropriate meaning of the term. By following a number of steps involving the rules of English and dictionary conventions, the student tests hypotheses by comparing the various renderings in the dictionary against the context in which the word is found. Essentially, then, looking up a word in a dictionary requires a certain amount of skill. This skill, when applied in a systematic way, becomes a strategy (Scholfield, 1982).

However, before opening a dictionary, students should be taught when to look up words as well as how to do so. Regarding the "when," students should first think carefully about the entire sentence in which the unknown word occurs (Allen, 1983) and should consider how much they understand about the sentence before looking up the word. Second, after having looked carefully at the unfamiliar word, they may see some familiar aspects about it such as its part of speech (noun, verb, adjective, etc.), its root, or its

affix(es). Third, students should think of some possible meanings (Allen, 1983) for the word based on what they have figured out thus far. If, after following these three steps, a suitable temporary meaning has not been found, the dictionary can help to resolve the uncertainty. By having followed these three steps, however, students will be much better prepared to select from possible meanings and to interact with the context than if they had merely run straight to the dictionary first.

Students should also be guided in how to make the best use of a dictionary. The following steps are summarized from Scholfield (1982) (pp. 186-193).

1. Find the word(s) or phrase that you don't understand.

2. If the unknown word has endings, take them off to discover the form to look up (the base form of the word).

3. Look up the unknown word by following the order of alphabet.

4. Sometimes the unknown is difficult to find as a main entry on the page. Try these suggestions to find a definition:

    a) If the unknown is a phrase such as an idiom, or a compound word, look up each main word in the phrase.

    b) If the unknown word is an irregular verb or has an unusual spelling, look at the nearby main entries.

5. If there is more than one definition for the unknown word, reduce each definition by comparing it to the context where the unknown word was found.

6. Think about the definition and then make it fit into the context where the unknown was found. This may involve:

    a) looking up words in the definition that you don't know.

    b) thinking about how the definition makes sense with the rest of the context (complementation) and arranging the words so that they fit together correctly (collocation).

    c) remember to make changes for part of speech.

    d) make sure that the definition matches the meaning of the context.

7. If none of the definitions of the unknown word seems to fit, try to pick the one which seems closest in meaning to the context from the definitions you have. If more than one definition fits, search for more context clues in the sentences and paragraphs before and after the unknown word.

Based on these suggested steps, several strategies can be formulated to resolve comprehension problems due to unknown words, idioms, polysemous words, and collocations.

Unknown words. Unknown words comprise the largest category of words that are considered difficult vocabulary. Although some of these words may be easy, the reader has not yet encountered them. Others may be truly difficult because they fit into one or more of the other categories of difficult vocabulary. It is possible that upwards of 10% to 20% of the words in a text are unknown to the student who has a passive vocabulary of 3000 words (Honeyfield, 1977). Unknown words may be difficult especially

when there is a high density of them in the reading material (Freebody and Anderson, 1983). Also, when the position of an unknown word holds an important place in the sentence, text comprehension may be impaired (Freebody and Anderson, 1983).

Idioms. On some occasions, a student may recognize every word in a sentence and still not understand the meaning of it. Often this occurs because some of the words form an idiomatic phrase. Since looking up the individual words of an idiom to piece together the meaning is fruitless, another strategy should be employed. A student should be taught to look up the main noun of the idiomatic phrase. In most dictionaries, the idiomatic phrase does not appear as a main entry, alphabetically, but is listed within the entry for one of its constituents. "Dictionary look up" procedures should be modified for a phrase with an initial non-lexical function word (e.g., all the **rage**). This also requires that the student can distinguish lexical from non-lexical (function) words. A student must have this knowledge in order to judge the probability of a particular word appearing as a main entry. Here, the most likely strategy would be to look it up under the lexical item within it (i.e., **rage**). In another example, **pull** someone's **leg**, this idiom may be found under **pull** or **leg**. Since dictionaries differ in how they list idioms, the student should be taught to pursue several hypotheses about

where they may be found. They should also consult the introductory section of their dictionary where the particular conventions followed are set forth.

Polysemous words. Students may also fail to understand because of the multiple meanings of words. For example, in "George was lucky to get off the charge," all of the words may be known to the student. However, students may not be able to fully comprehend the sentence. One likely reason is that the words "get off" and "charge" are being used in an unusual sense. First, before students look up the word in the dictionary, they must determine the general context of the polyseme. In this case, it could be about legal matters, purchasing, or setting off dynamite. By first determining the context, students bring knowledge of the text to the dictionary. Next, students must be able to formulate some hypotheses about the intended meaning by comparing definitions for the difficult word within the context in which it is found (Scholfield, 1982). Then, students must determine the part of speech of the difficult word. Since polysemous words often appear as different parts of speech, dealing with this matter will help to eliminate some of the meanings of the word. However, even in one part of speech there are often many alternative senses to choose. Greater skill is required here because the subtle differences between these senses are often grammatical as well as semantic (Scholfield, 1982).

Definition Integration

All categories of difficult vocabulary. Once a definition has been selected, understanding and integrating it into the reading context becomes an important basic strategy. The first step is to understand the definition. Besides looking up unknown words that may occur in the definition itself, familiarity with special terms used in defining words also will be helpful. For instance, superordinate terms such as "instrument," "substance," "vehicle," "apparatus," "action," "state," "process," and phrases like "pertaining to" will be valuable for students to know in advance (Scholfield, 1982).

After the definition has been clearly understood from the look up process, the second step is to integrate it into the context where the difficult word was located. In this step, matching procedures need to be performed because a dictionary paraphrase or synonym definition is often not easily integrated into the context where the difficult word is encountered. The matching procedures need to be followed in order for acceptable English to be maintained when the definition is integrated into the context. The result of this integration should be the student gaining knowledge of the unknown word in this context.

Next, according to Scholfield's point 6b mentioned above (see p. 75), students are taught how to match the collocation in the definition with the difficult word in

the original text. Sometimes collocations are matched for sense discrimination in the definition and are set off by brackets in the dictionary. One way to deal with collocations is to eliminate them from the integration process. For example, in the sentence, "This pork is lean," students may not know the word **lean**. In their dictionary, the abstract word **lean** is defined as "(of meat) without much fat." In this matching-up procedure, the sense discriminant "of meat" is eliminated. The definition can then be integrated into the original text like this: "This pork is without much fat" (Scholfield, 1982).

Often, though, the meaning of the original context cannot be fully understood unless part of the collocation is added to the original text. Here the sample text is: "Information about our plans seems to have leaked out." In the dictionary, the multi-word verb **leak out** is defined as "(of news, facts, etc., that ought to be secret) to become known." When part of the collocation is added to the text it turns out like this: "Information about our plans, that ought to be secret, seems to have become known" (Scholfield, 1982).

Defining Words in the Classroom

All categories of difficult vocabulary. By the time students reach the intermediate level, they have learned a considerable number of English words. These words can be

used by the teacher to define unknown words. As a teaching strategy, defining English words by using simpler English words requires a certain degree of skill. The reason for this is that, unlike most basic vocabulary, much of the intermediate vocabulary cannot be demonstrated through actions or shown through pictures. However, meanings of these unknown words can be clarified by putting them into definitions or explanations where all the other words are already known (Allen, 1983).

In addition, a valuable resource for the teacher is a learner's dictionary like the Oxford Student's Dictionary of American English. It defines difficult words in terms of simpler English words usually known by intermediate students. For instance, compare these two definitions (Allen, 1983):

1. **to drown:** to die by being under water for a long time.

2. **to drown:** to be suffocated by immersion in water or liquid, to sink and perish in water. (p. 47)

The first definition is from a learner's dictionary, the second from a standard dictionary. It is obvious that the definition in (2) contains several words that are at least as difficult as the word being defined. On the other hand, the words in definition (1) are probably all known to the students in an intermediate class. Although definition (1) is less exact than definition (2), it is sufficient to

introduce the meaning of the word to the students (Allen, 1983).

Sentence Examples

All categories of difficult vocabulary. A learner's dictionary also provides example sentences which may be more helpful than a definition. For example, the verb **contain** could be presented like this (Allen, 1983):

> These boxes contain chalk.
> This glass contains water.
> Handbags often contain money and many other things.
> (p.48)

Definitions and Sentences Together

All categories of difficult vocabulary. Definitions and sentences can be used together in exercises after reading. For example, first two words are given, with a space provided for the student to write the definition. Next, there are two sentences each containing a blank space where one of the two words is to be written. In pairing words, students are given the opportunity to compare the differences in meaning not only from the definitions, but also from their use in the sentence. These procedures are followed for each number in the exercise. This example is from Sobel and Bookman (1989):

1. **compliment:** expression of admiration

2. **suggestion:** idea offered for consideration

When people give me a **compliment**, I really don't believe them, and I feel uncomfortable.

I have a **suggestion** for you, Lori. Simply say, "Thank you," and believe that they meant it. Why would your friends lie to you? (p. 5)

Sentence Context

Idioms. Another aspect of vocabulary development is the mastery of idioms. After students have learned the basic meanings of many words, they can begin to understand extended or culturally restricted meanings. Gidmark (1982) says that idioms are "one-language specific"; by this she means that the meanings of idioms do not usually transfer into a second language. Since in order for students to use an idiom correctly they must know not only the meaning but also how the native speaker uses it and in which contexts it is appropriate, the teacher can provide the students with several example sentences to accompany the definitions of each idiom (Gidmark, 1982).

Synophones. Students should be reminded of easily confused synophone pairs (i.e., inhabit, inhibit). Laufer (1981, p. 299) also suggests that students be "drilled in meaning distinction between sentences containing these troublesome words" when they are learning new vocabulary. This strategy helps students to develop an awareness of

synophones by preparing them for the existence of a "non-identical twin" when the seemingly known word does not make sense.

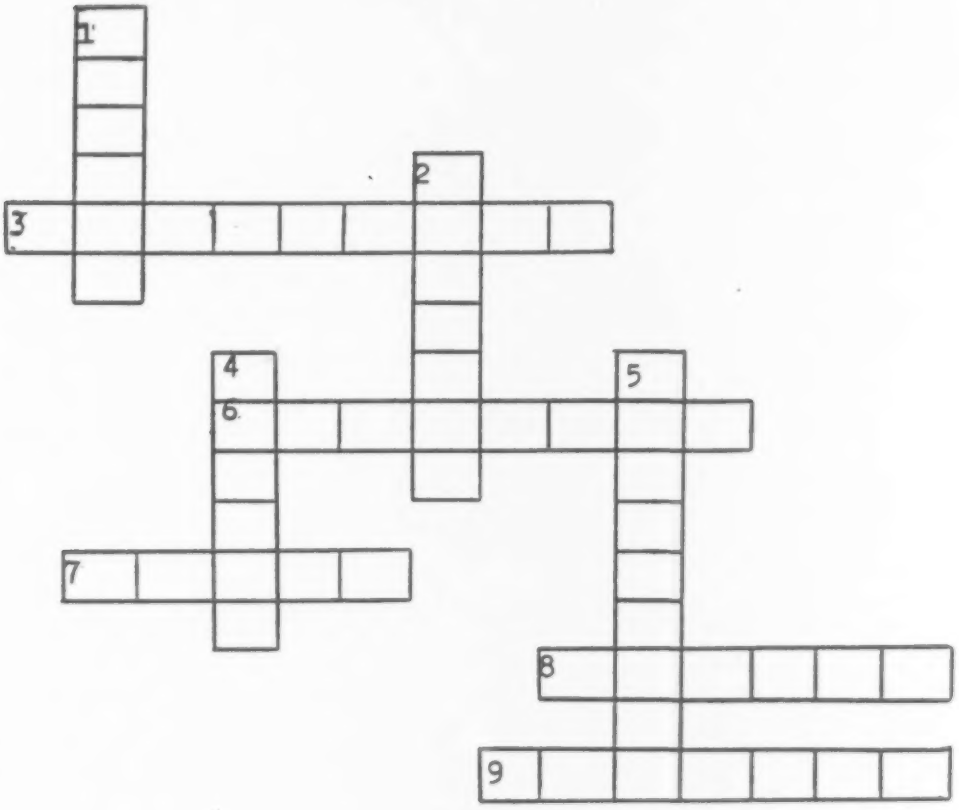
Crossword Puzzle

All categories of difficult vocabulary. The teacher creates a vocabulary list or uses the one provided by the book. Next, the teacher creates a puzzle by placing the definitions of the words in the down and across clues. The puzzle will contain the appropriate spaces for each word. In this way, the students are given both the words and the definitions. To fill in the puzzle, students match the word to the definition and write it in the correct spaces on the puzzle (see Table 4-1).

Rich Instruction

All categories of difficult vocabulary. This strategy has particular relevance for reading comprehension. Although a word may be recognized, it might be accessed in a student's memory only with some difficulty. If a student has difficulty in accessing the meaning of a word, this can interfere with the processing of the text. For instance, when the student's attention is diverted from the text (searching for the meaning of the unknown word), comprehension of the text breaks down (Beck, Perfetti, and McKeown, 1982).

Table 4-1 Crossword Puzzle



Vocabulary

veteran
phony
admire
promotion
fiction
secret
impostor
vision
competent

Across

3. a raise to higher position
6. a person pretending to be someone else
7. a pretender
8. hidden; kept from others
9. an ex-soldier

Down

1. have a high opinion of
2. something imagined
4. eyesight
5. able; capable

(Sobel and Bookman, 1989, p. 22)

One solution to this dilemma is to provide rich and flexible instruction to facilitate reading comprehension. This means that the rich instruction should create the quality of connections in the reader's semantic memory (Beck, Perfetti, and McKeown, 1982) that are meaningful, flexible, and varied. In order to better understand a word's meaning in context, a student must know not only the word's common meaning but also its connection with other semantic concepts in the context.

An example of vocabulary instruction which provides a rich learning environment is found in the study conducted by Draper and Moeller (Beck, Perfetti, and McKeown, 1982). In their program, 1800 words were taught in the course of one year. This instruction included a 30 minute radio program broadcast three times weekly. Each program presented 20 words, their definitions, examples of each concept, synonyms and antonyms for each word, and stories containing the words. The result of Draper and Moeller's work suggests that "for vocabulary instruction to affect reading comprehension, the instructional strategies must go beyond establishing accurate responses to words" (Beck, Perfetti, and McKeown, 1982, p. 508). In addition, instruction should be directed toward exploring each word's meaning and related ideas. This type of instruction will help to provide a deeper knowledge of the words and their relationships.

The study by Beck et al. examined the processing implications of vocabulary knowledge on reading comprehension. The instructional component developed for this study consisted of an intensive vocabulary program of 104 target words, presented through 75 daily lessons of 30 minutes each. The vocabulary program consisted of twelve 5-day cycles of initial instruction (the "some condition") and six 2-to-3 day review cycles (the "many condition"). The words presented in the "some condition" were taught in the regular instruction with no extra review or special instruction. The "many condition" words received twice the amount of time in an extensive type of instruction and were reviewed in a daily review cycle. Instructional activities used in this program included: defining tasks, sentence generation tasks, classification tasks, oral and written production tasks, gamelike tasks that were to be completed under timed conditions, and tasks that take advantage of the semantic or affective relationships between target words and previously acquired vocabulary. In each of these studies, a rich and flexible vocabulary learning environment was provided.

Structural Analysis

All categories except idioms. On some occasions, an unknown word must be broken down in order to identify it. The process of using "word attack" skills involves a knowl-

edge of structural analysis, which includes the study of root words, inflectional endings, prefixes, suffixes, compound words, and contractions. When students can recognize the meaningful parts of words, they can then get to the unknown parts. By applying this knowledge, students not only gain an understanding of the meaning of the word but they also learn to determine its grammatical function. This whole process enables students to discover the meaning of the complete sentence (Narang, Motta, and Bouchard, 1975).

Root approach: Cognates, technical and non-technical words. One subheading under structural analysis is the study of root words. Among Indo-European languages there are approximately 50-80 productive roots. When this fact is combined with 40-50 prefixes, the result is several thousand words of high frequency. If these roots were placed on one axis of a grid and the prefixes on the other, a matrix could be developed (Keller, 1978). This would make it possible to place a check mark at every junction of prefix and root that represented an actual word in the language being studied. Additionally, it would give a broad picture of the possible cognates between English and other Indo-European languages.

All Indo-European languages including English, possess the feature of prefix-root combinations. Many of these roots are traceable to ancient Greek and Latin. English

has borrowed many entire root developments, almost intact, from these two languages. Frequent exposures to members of the same root family, moreover, serve as a memory device. This helps the students to retain these words.

The root approach can have varying degrees of emphasis in the classroom. Students can reference the difficult word in a root dictionary or a word family dictionary. Alternatively, the teacher could provide a number of hours per semester for vocabulary building exercises. These exercises could be completion exercises (fill-in the blank with the missing root). They could also entail a review of previously learned words from the same root family. Exercises such as these would teach students that not all groups of letters are equally helpful in determining the meaning of a word. Indeed, "the heart of a long and ponderous word is often a root that consists of only three or four letters" (Keller, 1978, p. 5).

Affix mastery: Abstract, technical or non-technical, and low-frequency words. Another subheading under structural analysis is affix mastery. To begin with, students can be made aware of the affixes that go with words they already know. For example, **enjoy** can be changed by adding **ment**, **able**, or **ably**. In this way, students can be directed to learn new words from words they have already mastered. The importance of teaching affixes is that it strengthens

students' comprehension of English by enabling them to recognize familiar elements within words (Allen, 1983).

The teacher can also introduce new words that are formed by adding affixes to familiar vocabulary in simple sentences. Allen (1983) has an example using suffixes.

1. He is kind and good. We appreciate his kindness and
   (adj.) (adj.) (noun)

   goodness.
   (noun)

2. Schools educate children. They provide education.
   (verb) (noun)

3. There is dirt on the floor. The floor is dirty.
   (noun) (adj.)

4. He is careful. He works carefully.
   (adj.) (adv.) (p. 95)

The teacher can begin with a few of the most common affixes and combine them with words students already know. Once students learn how to look for familiar elements within unfamiliar words, they can go on to discover other affixes for themselves (Allen, 1983).

Affixes can also be taught using small group activities. For each activity, there is a leader in every group who holds the answer card. Below are two small group activities which provide practice for affixes (Allen, 1983).

TASK 1:
One of the listed words is needed for completing each sentence. The underlined prefix will tell you which word is needed. The first sentence serves as an example.

across again poorly before below

1. A subway does not go above a city; it goes below.
2. Maladjusted people are people who adjust _____.
3. A transatlantic flight goes _____ the Atlantic.
4. A prefix is a word-part that comes _____.
5. When we rewrite something, we write it _____.
6. A subnormal temperature is not above normal, it is _____.
7. To prearrange something is to arrange it in advance, or _____.
8. To recopy a composition is to copy it _____.

(pp. 96-97)

TASK 2:
The words in parentheses before each of the following sentences all belong to the same word family, but only one of those words belongs in the blank. Decide what kind of word belongs there: verb, noun, adjective, or adverb. Then take the right word from the parentheses and copy the completed sentence.

1. (depend, dependable, dependably)
   Their new helper is very _____.
2. (satisfaction, satisfactory, satisfactorily)
   He has completed the work _____.
3. (beauty, beautiful, beautifully)
   Everyone admires goodness and _____.
4. (collect, collection, collective)
   When do they _____ the mail?
5. (artist, artistic, artistically)
   Her niece is very _____.
6. (destroy, destruction, destructive)
   The fire produced terrible _____ everywhere.

7. (gratitude, grateful, gratefully)
   How can we express our _____?

8. (science, scientific, scientifically)
   Your reasons are not very _____.

9. (explain, explanation, explanatory)
   What is his _____?

10. (repeat, repetition, repetitive)
    Sometimes _____ helps us. (p. 98)

By stressing activities that relate new words or forms to words already learned, students are able to expand their vocabulary by discovering word meanings for themselves. This is especially important in order to prepare students for the time when they no longer have a teacher. In addition, since it is not possible to teach all the words the student needs to know, this strategy fosters student responsibility for his/her own learning. Therefore, the teacher's primary role is to show students how to use the tools available to them.

Problem-Solving

All categories of difficult vocabulary. The problem-solving strategy uses small group discussion to solve a problem posed by the teacher. Often, a language problem involves words that are closely related in meaning and in use. Students are given a problem that requires them to put a list of words in order by a group consensus. In order to discuss the problem, the teacher presents the necessary vocabulary. The purpose of this strategy, how-

ever, is not so much to introduce vocabulary as it is for students to use and practice vocabulary in a natural context. The following activity is an example of problem-solving used as a vocabulary lesson (Celce-Murcia and Rosensweig, 1979):

Describing Americans

> Many adjectives have been used to describe Americans. Some are complimentary and others are not. Below is a list of fifteen adjectives often used by foreign students in describing Americans. [see Table 4-2] Your task is to rank these adjectives placing the number 1 by the adjective which best describes Americans, the number 2 by the adjective which describes Americans second best, and so on through number 15, which is your estimate of the adjective that describes Americans least well. Remember that your ranking is from a foreign student's viewpoint and it should be based on your general overall impressions of Americans, not on a few specific examples or exceptions.
>
> Do this ranking first individually at home. Then in class you will do it in small groups for 25 minutes. Do not forget that in the groups, you must reach a consensus on the rankings. Everyone must agree on the ranking that the group gives each adjective.
>
> Discussion questions and suggested topics for writing follow this activity. In this exercise, the lexical focus is on adjectives. In the course of the problem-solving, the students will use the adjectives fre-quently, thus reinforcing their understanding.

Collocations

All categories of difficult vocabulary. A collocation strategy refers to how words fit together in a particular context. By the intermediate level, students should not just continue learning basic meanings of words. They must learn what are the common words that go together with the

Table 4-2

Describing Americans

Individual at home	Rankings Groups in school
	hurried
	efficient
	hospitable
	outgoing
	showy
	devious
	traditional
	polite
	punctual
	tolerant
	pushy
	friendly
	frank
	reserved
	cosmopolitan

(Celce-Murcia and Rosensweig, 1979, p. 250)

word being studied. In addition, useful collocations help to build an understanding of the concept of the word.

An advantage to this strategy is that it can be used with textbooks that have chapter vocabulary lists. The teacher should find collocates for the words on each new

list. Collocates can be drawn from revised lists of old words or from the dictionary. By practicing old words that collocate with new ones, students will also reinforce their vocabulary knowledge (Brown, 1980).

Polysemy. It is important that secondary meanings not be introduced before the primary meanings are clearly established. "For example, 'sugar as sweet' should come before 'sweet face' or 'sweet voice'" (Brown, 1980, p. 2). Equally important, students should learn collocations that occur frequently before ones that occur infrequently. For instance, **bitter** may occur in a textbook as being taught with **past**. However, in order to understand the meaning of **bitter** in English, a student should first know **bitter taste** and **bitter words**. These are the root meanings on which **a bitter past** is based (Brown, 1980). Teaching primary meanings before secondary meanings provides a framework to help the teacher avoid confusing the student with multiple meanings of the same word.

Topical Vocabulary List

Unknown, low frequency, and abstract words, compounds, and multi-word verbs. Students often encounter words in a haphazard arrangement such as in a textbook word list. And, even though many first year textbooks claim to teach the 2000 most frequent words, they often differ widely in their selection of vocabulary. In contrast, research in

verbal learning suggests that learning a word in a categorized list is much easier than learning a word in a semantically unordered list (Keller, 1978). For this reason, when students encounter words in context, they should have the benefit of a topical arrangement for their review.

In order to reach a minimum level of fluency, Keller (1978) indicates that a recognition of 7000 words and an active use of 3000 words is needed. Order in vocabulary teaching can be achieved by dividing this massive amount of vocabulary into manageable categories and subcategories. Each item on the list should include the frequency indication of that word (Keller, 1980). The frequency indicators are helpful because they provide a general guide to the relative importance of abstract nouns or other types of difficult vocabulary that might appear on the topical vocabulary list.

A further step would be to publish the list in several versions. This would improve the efficiency of its use: a complete list of 7000 words, an intermediate student's list of 4000 words, and a beginner's list of 2000 words (Keller, 1980). Each version of the list could give students a visible end to their goals of mastery. Further, the list would enable them to evaluate their progress toward fluency. In addition, students would have a clear idea of how much they had learned and how much remained to be learned.

Without this perspective, the learning process would entail mastering 7000 unordered words.

Access Hypothesis

Synonyms/Antonyms

All categories except idioms and polysemous words. A quick and easy way to explain unknown words is the use of synonyms. It is important to highlight the differences between synonyms so that students do not think that the words are completely interchangeable. For example, the synonyms **kid** and **child** have differences in register. The first is colloquial; the second is neutral. **Skinny** and **thin** are different in connotation. **Skinny** is pejorative while **thin** is neutral. By providing some differentiation between synonyms, students also become more familiar with the contexts in which these words are used (Gairns and Redman, 1986).

Antonyms are more difficult to teach because opposites are not always crystal clear. Gairns and Redman (1986) suggest that teaching antonyms not in the absolute sense may be more beneficial. This can be done by using converses, or gradable antonyms. Converses define words in relationship (i.e., Julia is Martin's wife. Martin is Julia's husband). Converses are often used for family, social relations, time, and space. Gradable antonyms demonstrate

relative relationship between words; for example:

(small-to-large or little-to-big)

infinitesimal-tiny-small-normal-big-huge-infinite

Mnemonic Imagery

All categories of difficult vocabulary. Mnemonic imagery is a strategy which links a new word with a word already in the memory of the learner. This can be done in one of the following ways: logical connection, similarity, contrast, or simultaneous occurrence. Although various systems can be used to associate the unknown with the known, they all share the same goal: "the implanting of an unfamiliar object, idea or word form into short-term or long-term memory through an association with a familiar object" (Keller, 1978, p. 7). An example of this would be bilingual puns or random association (e.g., "Think of a fat man named Mr. Sloane when you remember Russian **slon** = elephant") (Keller, 1978, p. 7).

Two types of mnemonic devices can improve the learning of difficult vocabulary. In one mnemonic device, the "chain type," difficult words can be "remembered by their use in a story, by their being linked together through a series of visual images, or by their use in rhymes" (Cohen, 1987, p. 44). A second type of mnemonic device, "encoding mnemonics," can aid in the acquisition of difficult vocabulary by means of either verbal or imagery mnemonics. For

example, a verbal mnemonic for a Spanish speaker learning the word **chalk** would be **choca** (strikes in Spanish). **Choca** in Spanish sounds similar to the word **chalk** in English. The Spanish word can be further linked in meaning by creating a sentence, as in **La tisa se choca con la pizarra** (The chalk strikes the blackboard) (Cohen, 1987). In addition, an imagery mnemonic device could be a picture generated about a teacher striking the blackboard with a piece of chalk.

Verbal and imagery mnemonics seem to affect the learning of difficult vocabulary in different ways. Pressley, Levin, and Delaney (cited in Cohen, 1987) investigated performance differences between verbal and imagery mnemonic devices. They found that imagery mnemonics have an advantage over verbal mnemonics as far as difficult vocabulary is concerned. Imagery mnemonics can link difficult vocabulary, such as abstract words, to a picture through a keyword. In addition, learners with low verbal ability can obtain an increased benefit from imagery mnemonics over verbal mnemonics.

Keyword Method

All categories except idioms. In this strategy, a keyword is created which sounds similar to the unknown word in English. Then, it is linked to the native language of the student through a visual or syntactic context. For

example, "in learning the Spanish word **carta**, 'a postal letter,' the student thinks of the English word **cart** and visualizes a shopping cart with a letter in it" (Barnitz, 1985, p. 30).

The keyword strategy is also useful in learning difficult vocabulary. A difficult word in English is matched to a keyword in the student's native language that is similar in sound to the English word. This stage is referred to as the "acoustical link." If the difficult word is abstract, it should be matched "by an acoustical link into a more concrete word or concept in the native language, which in turn is linked by an image to the more abstract word" (Cohen, 1987, p. 45). An example of this could be a French speaker learning the English word **anger**. The French speaker selects **en guerre** (at war) and imagines a general waging war angrily. Thus, when the learner is given the word **anger**, he/she first makes the acoustical link to **en guerre** and then imagines the general angrily waging war. At this point, the meaning of **colere** (anger) is accessed. This example not only demonstrates an acoustical link between the keyword and the target word but also a semantic link as well (Cohen, 1987).

Another use of the keyword method for difficult vocabulary, is the way it is applied to reading comprehension. First, words that are considered difficult for students are identified. Second, a keyword or phrase is selected, along

with four other possible words from the same semantic field. For example, if the word **rage** appeared in the text, then **anger**, a word probably known by students is chosen as a keyword, and four related words (i.e., fury, ire, wrath, indignation) are also added to complete a keyword group (Crow and Quigley, 1985). Third, exercises are developed to reinforce the connection between related words and keywords. These exercises start at the word level and rapidly move toward the sentence and discourse level. The exercises require students to perform three different tasks: "(1) substitute the keyword for the related words, (2) substitute the related words for keywords in context, and (3) pick out the unrelated word from a group of related words" (Crow and Quigley, 1985, p. 502). The final exercise in this unit requires students to read without referring to a dictionary. The keyword method exercises train students in word recognition skills. They do not require students to use the words actively (Crow and Quigley, 1985).

Finally, Brown and Perry (1991) studied the effectiveness of the keyword method, semantic method, and the keyword-semantic method. Their findings suggest that "the keyword-semantic method produced significantly better results than the keyword method alone and that (it) was slightly better than the semantic method" (p. 665). This means, first, that vocabulary items processed at the semantic level are remembered better than those processed at the

acoustical and visual levels. Second, in terms of retention, the combined strategy of the keyword-semantic method greatly outperformed the other two strategies with students of differing proficiency levels. Therefore, this strategy is an attractive choice for teachers to use in the selection of strategies with which to train their students.

Knowledge Hypothesis

Semantic Feature Analysis

All categories of difficult vocabulary. Semantic feature analysis is a strategy related to semantic field theory which suggests that "the vocabulary of a language consists of many interrelating networks of relations between words" (Channell, 1981, p. 117). Similarly, then, semantic feature analysis relates vocabulary already known by students to new vocabulary by stressing their interrelated concepts, similarities, and differences. The teacher helps students to discover these distinctions between closely associated words by using a binary system (Barnitz, 1985). For example, by using a grid, the category "tools," adapted from Barnitz (1985) could illustrate these distinctions (see Table 4-3).

In order to utilize this strategy, several steps must be followed. First, a semantic category related to the story is chosen. Second, words within this category are

Table 4-3

Topic: Tools

	Features					
	is used to:			is used on:		
Words	Pound	Cut	Grip	Wood	Cloth	Dirt
hammer	+	-	-	+	-	-
saw	-	+	-	+	-	-
scissors	-	+	-	-	+	-
pliers	-	-	+	+	-	-
hoe	-	+	-	-	-	+

(Barnitz, 1985, p. 33)

listed in a column on the left. Third, words indicating the distinctive features in the semantic category are written in a row across the top. Fourth, pluses or minuses are placed in the grid to indicate which features at the top the word on the left possesses. Fifth, in the ensuing discussion, students can add words and features to expand the grid. The most important aspect of these steps is the discovery of the uniqueness of each word meaning. This discussion and matrix building exercise can also be used as a pre-reading activity to prepare students for the vocabulary and concepts they will encounter (Barnitz, 1985).

Semantic Associations

All categories of difficult vocabulary. In a second strategy related to semantic field theory, semantic associations, the teacher chooses words that are ideally related to the context of the story. Students brainstorm for all the words related to the selected words. After the brainstorming session, the teacher conducts a discussion of the various words the students have come up with. Next, the words are classified in an organized manner with the concepts related to the story. The result of this strategy is that not only do the students develop content knowledge but also meaningful vocabulary is systematically presented in the context of the total network of the words related to the story (Barnitz, 1985). As with semantic features analysis, new words and knowledge are related to the old words and knowledge.

Semantic Mapping

All categories of difficult vocabulary. A third strategy which has evolved from semantic field theory is semantic mapping. Here, the teacher selects a main concept that is central to the story. The students brainstorm to find all the words that are associated with a given word. After the related words have been shared and categorized, the teacher and students draw up a visual representation of the main concept. This representational "map" is then used

as a visual study aid to develop word knowledge and as a conceptual framework for understanding the story (Barnitz, 1985):

Table 4-4

A Semantic Map of Mardi Gras in New Orleans

Significance	Activities	Krewes
Fat Tuesday	Watch parades	Bacchus
Ash Wednesday	Wear costumes	Rex
Lent	Drink beer	Endymion
Salvation	Attend balls	Argus
	Eat King Cake	Diana

MARDI

GRAS

Throws	Sounds	Colors
Beads	Music	Purple
Cups	Jazz	Green
Doubloons	Sirens	Gold
Coconuts	"Throw something, Mister"	
Toys		

(Barnitz, 1985, p. 32)

Componential Analysis

All categories of difficult vocabulary. A fourth strategy derived from semantic field theory, componential analysis, is a systematic means of examining sense relationships (Rudska and Channell, 1981) by describing similarities and differences between words which share some similarities in meaning (semantic field) (Channell, 1981). The analysis breaks down the meaning of a word into different parts called "semantic components." For example, an analysis of **walk** might be (Channell, 1981):

> [+move] [+by feet] [+on land] [+placing down one foot after another] [+contact maintained with ground] (p. 118)

Componential analysis becomes a more visual teaching strategy by diagramming the semantic components of the words in a semantic field under study. An analysis into the semantic components for the abstract words **astound** and **flabbergast** are visually represented through a componential grid (Channell, 1981) (see Table 4-5):

Three criticisms should be kept in mind concerning the use of grids and visual representations of word relationships in general. First, grids cannot represent everything a native speaker knows about a semantically related group of words (Channell, 1981). Second, significant variation between the judgments of different speakers about these words is not presented (Channell, 1981). Third, regional

Table 4-5

Being Surprised

	Affect With Wonder	Unexpected	Unbelief	Confusion	Helpless To Act Or Think
surprise	+	+			
astonish	+		+		
amaze	+			+	
astound	+				+
flabbergast	+				+

(Channell, 1981, p. 119)

or cultural differences among native speakers is also not represented on the grid.

Collocation Grid

All categories of difficult vocabulary. Collocation grids are another way students can acquire knowledge of how words relate to each other. Teachers should present words with a good number of typical collocations either in the form of an example sentence or in a collocation grid as shown below (Channell, 1981) (see Table 4-6):

Collocation Chart

Idioms. One reason that idioms give difficulty to L2 learners is that they have fixed collocations. Collocation

charts help students learn how to form idioms and how they are used in specific contexts (see Tables 4-7 and 4-8).

Table 4-6

A Collocation of Compliments

	WOMAN	MAN	CHILD	DOG	BIRD	FLOWER	WEATHER	LANDSCAPE	VIEW	HOUSE	FURNITURE	BED	PICTURE	DRESS	PRESENT	VOICE
handsome		+									+				+	
pretty	+		+	+	+	+		+	+	+		+	+	+		
charming	+		+							+				+		+
lovely	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+

(Channell, 1981, p. 120)

Table 4-7

As Pretty as a Picture

We often use these idioms to describe people.

Can you match them up?

As pretty as	an ox
As obstinate as	gold
As white as	a picture
As strong as	a mouse
As good as	a sheet
As quiet as	a mule

(Taylor, 1990, p. 48)

Table 4-8

You're Pulling My Leg

Match each verbal idiom in capitals with one of the meanings below, and check your results with the dictionary:

(i) It can't be true! You're PULLing my LEG.

(ii) We all told him he couldn't have seen a mermaid, but he stuck (STICK) to his GUNS.

(iii) I know the shop's closed on Sunday by law, but couldn't you just STRETCH A POINT and sell me some bread?

to continue to fight or argue in spite of attacks
to allow a little freedom from a rule, especially on a special occasion
to make fun of a person in a playful way

(Taylor, 1990, p. 50)

Taxonomies

Technical terminology. Technical terms are terms for which there is an agreement of concept acceptable to most scientists, regardless of their native language. In the lexis of science, a technical term is related to other terms which share the same phenomena, related phenomena, or are used in hypotheses or theoretical concepts. Terms centered around a concept or phenomenon are said to be in a group or cluster. In a group of related terms, each term is defined completely only after all the other terms have been defined. As Godman and Payne (1981, p. 26) state, "the meaning of any one of these terms involves the meaning of all the terms in the group." In order to teach techni-

cal terms, terms should be grouped according to meaning, and a hierarchy of groups should be developed. The result of this work is to provide a visual aid to technical vocabulary in the form of a taxonomy.

In Table 4-9 below, each of these groups represents a different principle in grouping. In Group A, terms from physics represent a moving object approaching another object that may be stationary or in motion. Terms from biology in Group B are adjectives used to describe circumstances or factors that affect the life of an organism. Different types of environment for an animal are described by adjectives from biology in Group C. Group D contains terms from chemistry that apply to processes connected with purification and separation (Godman and Payne, 1981) (see Table 4-9).

Non-technical terms. Non-technical terms are general language items that are given a more precise meaning. These terms can also be grouped and displayed in a taxonomic form. Six groups of common language items are displayed in Table 4-10. Each group contains terms of the same word class. Although these terms are used in the general language, their usage is more restricted in scientific statements. When terms are used in a particular scientific context, only one term is normally applicable (Godman and Payne, 1981) (see Table 4-10).

Table 4-9

A Taxonomic Display of Some Technical Terms

Physics A (Related by the event of collision between two bodies)	Chemistry D (Processes and descriptive terms in separation of two solids)
MOMENTUM	FILTRATION
IMPACT	FILTRATE
IMPULSE	RESIDUE
COLLISION	DECANTATION
ELASTIC COLLISION	SUPERNATANT LIQUID
INELASTIC COLLISION	CRYSTALLIZATION
CONSERVATION OF MOMENTUM	FRACTIONAL CRYSTALLIZATION
	MOTHER LIQUOR
	SUBLIMATION

Biology

B (Gradation)	C (Habit and mode of life)	
ADVANTAGEOUS	AQUATIC	AMPHIBIAN
BENEFICIAL	MARINE	AMPHIBIOUS
FAVORABLE	FRESHWATER	AMPHIBIOTIC
ECCRITIC	ESTUARINE	ARBOREAL
TOLERABLE	RIPARIAN	AERIAL
ADVERSE	TERRESTRIAL	
HARSH	TERRICOLOUS	

(Godman and Payne, 1981, p. 27)

Table 4-10

A Taxonomic Display of Common Language Terms

A	B	C
OCCUPY	HAPPEN	REPLACE
ESTABLISH	OCCUR	DISPLACE
EMPTY	TAKE PLACE	SUBSTITUTE
VACATE	RECUR	EXCHANGE
EVACUATE	BRING ABOUT	INTERCHANGE
EXHAUST	INFLUENCE	
DISLOCATE	INDUCE	
	ENCOURAGE	
	FAVOR	
	EVOKE	

D	E	F
STUDY	FUNDAMENTAL	LIKENESS
ASSUMPTION	BASIC	SIMILARITY
POSTULATE	DISTINCTIVE	CORRESPONDENCE
INFERENCES	SPECIAL	AGREEMENT
EVIDENCE	GENERAL	CONFORMITY
DEDUCTION	COMMON	CONGRUITY
INDUCTION	ANOMALOUS	CONGRUENCE
CONCLUSION		

(Godman and Payne, 1981, p. 29)

In scientific literature, there are many contexts where only one verb is suitable for scientific explanations. This factor may cause difficulty for L2 learners. Since only one verb is correct, the choice of the verb depends on the scientific knowledge being explained. For instance, it is only correct to say: "(a) an electron **carries** a negative charge; (b) oxygen is **transported** by red blood cells; (c) glass **transmits** light waves; (d) a copper wire **conducts** an electric current" (Godman and Payne, 1981, p. 31). In each case, the verb precisely describes the action connecting the subject and the object. If students do not fully comprehend the exact meaning of the verb, they will fail to correctly form the intended concept. An "incorrect or imperfect understanding of the function of the verbs in a piece of text is, possibly one of the greatest obstacles to the comprehension of scientific statements" (Godman and Payne, 1981, p. 31).

In a taxonomy, terms are grouped together on the basis of a "cognate relationship" which means that each term is placed in a group based on its similarities with the other words in that group. A precise definition is given to each term after considering the differences between the terms. There are various kinds of cognate relationships. For example, cause and effect is shown below (Godman and Payne, 1981):

Stress (n.)	A force applied to a solid body.
Strain (n.)	The deformation or distortion produced by stress.
Tension (n.)	A stress that tends to extend a body.
Compression (n.)	A stress that tends to reduce the length of a body.
Shear stress (n.)	Two forces, of equal magnitude but opposite direction, applied to opposite faces of a solid body.
Shear (n.)	The strain produced by a shear stress. (p. 32)

The meanings of the terms, not their full definitions, are given above. However, there is enough information to see how the terms, which would be separated in an alphabetical arrangement (dictionary), reinforce each other in explanation.

There are several advantages in using taxonomic groupings of terms. First, they provide precision of meaning by grouping terms around a cognate relationship. Second, taxonomies can display a gradation of meaning within and across the terms. Third, the taxonomic approach could improve translation from one language to another. Although it is not likely that a one-to-one correspondence will occur, equivalent groupings of terms in the two languages could be compared. By doing this, the most appropriate term could be selected. Fourth, a taxonomic arrangement of terms could provide a basis for teaching units in the language of science (Godman and Payne, 1981). For these reasons, taxonomies would be beneficial to L2 learners of English in the field of science.

Analogies

All categories except idioms and synophones. An analogy is an abbreviated form of sentence completion in which the student must solve the reasoning puzzle. It is a strategy which combines vocabulary teaching, listening comprehension, and reasoning. When a teacher dictates the analogy, some emphasis is given to listening comprehension. Another medium of instruction would be to use the overhead projector. Quite a number of analogies could be put on one transparency. The teacher then uncovers the analogy as he/she dictates it. Students write down the information in the analogy form. An example of an analogy is given here from Plaister (1981):

1. "Guillotine is to decapitate"
2. "as razor is to" _____
   a. "beard"
   b. "hair"
   c. "shave"
   d. "cut"
   e. "steel" (p. 27)

However, before attempting to solve an analogy, students should understand what type of analogy it is. A list of these types could include: purpose, cause and effect, part to whole, part to part, action to object, object to action, synonym relationship, antonym relationship, place relationship, degree relationship, characteristic relationship, sequence relationship, grammatical relationship, and association relationship. (There are various sources for these analogies, such as preparation books or guides for

the Miller Analogies Test, the Graduate Record Examination Aptitude Test, and the Preliminary Scholastic Aptitude Test.) The teacher would have to be careful to select analogies that are appropriate for the level of his/her students.

After the students have taken down the analogy, the teacher answers any questions from the students. These questions would concern the pronunciation, spelling, morphological structure, and meanings of the words in the analogy. Next, students can work to resolve the analogy individually, in pairs, or in small groups. The teacher should be careful to exercise restraint in the amount of correction given so as to not disturb the problem solving atmosphere of this strategy.

After a certain amount of time, the teacher can initiate a discussion of the analogy. Using the analogy given earlier, the teacher determines the students' understanding of what a guillotine is and its function. Students must understand the function of the analogy before they can correctly interpret it (Plaister, 1981). One way to help clarify the relationship of **guillotine** to **decapitate** is to discuss their parts of speech. **Guillotine** is a noun whereas **decapitate** is a verb. This can also help to identify the missing word. Since **razor** is a noun, the missing word must be a verb. Based on this information, students may be able to eliminate words.

Several advantages can be found in teaching vocabulary according to analogies. Students learn not only to comprehend the relationship between words but also to apply that relationship to other related words. In addition, an analogy is an explanation of words set in a particular context. By using analogies, students not only learn difficult vocabulary items but also the functional meaning of these words. Finally, solving analogies requires intelligence and linguistic ability which is applied directly to vocabulary development (Plaister, 1981).

Reading Skills Strategies

Reading skills strategies train students in skills that promote reading ability and contextual guessing. They are the strategic lessons that enable students to learn from context. Twaddell (1973) advocates sensible guessing at meaning from context because it helps students to compensate for their lack of vocabulary knowledge. For guessing to be successful, however, Twaddell and others recommend that the reader accept some degree of vagueness in the early stages of becoming familiar with a new word.

In addition, guessing from context often involves finding the clues available in the text that help the reader comprehend the meaning of the unknown word. The most common clues are: definition, comparison or contrast, roots or affixes, cognates, grammar, and pragmatic knowledge. Bramki and Williams (1984) further suggest that

lexical familiarization is an important reading strategy that belongs under guessing from context.

Reading skills strategies, then, are planned lessons that teach reading skills to help the student to overcome the problem of difficult vocabulary. In these lessons, the student learns to apply strategies while reading rather than learning from vocabulary building exercises.

Guessing Hypothesis

Lexical Familiarization

Technical and non-technical terminology. Lexical familiarization can be described as the author's intention to familiarize the reader with difficult or unknown words (lexis) by verbal, illustrative, or numerical devices. An author using these devices often has a predetermined reader in mind. Therefore, lexical familiarization devices can be considered contextual aids provided intentionally by the author. One of these familiarizations is exemplification which includes explanation, definition, stipulation, synonymy, and non-verbal illustration. Exemplification is signaled by several phrases, including **such as, for example, is typified by, includes, provides an example of**, and **such things as** (Bramki and Williams, 1984).

The teacher's task, then, is to develop teaching strategies to enable students to recognize these types of lexical familiarization and the phrases which signal them.

There are four stages in doing this: pointing-out, guided, semi-guided, and free/integrated (Bramki and Williams, 1984).

In the first stage, pointing-out, the teacher marks up a text to show the signaling devices and other aspects of familiarization. An easy way to do this is to mark a transparency for an overhead projector with colored pens, or by underlining, boxing, and squiggling dittoed or photocopied texts. The purpose of this first stage is to enable students to gain some familiarity with typographic assistance, to acquire an awareness of signaling devices, and to learn that help with the meaning of a new term often comes from signaling and typographic clues. In this stage, the students should be given numerous examples (Bramki and Williams, 1984).

In the second stage, the teacher only marks up two or three of the essential parts in each familiarization. Students should complete the marking up of the passage. At first, this may require the teacher's assistance. However, students should be put to work in pairs or small groups (Bramki and Williams, 1984).

In the third stage, the teacher does very little marking. The text is marked only by making an asterisk in the margin next to where the familiarization occurs. Students work together in pairs or small groups to mark up the text.

In the fourth stage, the teacher integrates the students' newly acquired vocabulary recognition strategy with other strategies. This integration can be done by putting margin instructions in a text. For example, instructions could be to underline the meaning of X, or to briefly state, in the students' own words, the meaning of X. All four of these stages can help students to learn how to recognize lexical familiarization signals in a text.

Context Clues for Guessing

All categories of difficult vocabulary. In any given reading text there are usually context clues that can help the reader. These context clues can be various semantic devices used to disclose meaning. Some of them include redundancy, definitions, synonyms, and so on. However, since students do not always use contextual clues even when they could, teachers should develop exercises that help students to develop guessing strategies (Bensoussan and Laufer, 1984). These exercises should develop students' ability to use such strategies as, comparison and contrast, definitions and appositives, explanations, illustrations, and collocations in a text as clues to determine the meaning of a word (Bensoussan and Laufer, 1984).

Infer from local context

All categories of difficult vocabulary. According to Haynes (1983), good guesses are made when the local context contains the clues of a word's meaning. The local context usually refers to the sentence in which the difficult word is found. Sometimes, this local context can be extended to include the paragraph. Inference from this context means that students use what is familiar in the context to guess at the unknown word's meaning (Twaddell, 1973). Students should be trained to read past the unknown word until they come to the end of the sentence or paragraph. Then, students can look over the complete local context to make a reasonable guess about the unknown word.

One classroom strategy is for teachers to guide their students in the process of inferring meaning from context. The teacher assigns the first paragraph of a story to be read silently. Next, several students are asked to identify words that are new to them. They also explain their strategies for dealing with these new words. Then, the entire class discusses the strategies that each student has used. The purpose of this is to help the students discover how they can improve their reading strategies by classroom discussion (Hosenfeld, 1984).

Define words from context

All categories of difficult vocabulary. Defining words from context is an exercise to build students' ability to guess from context. In this exercise, students are asked to define certain words from the text. They circle those words or phrases in the text that help them define the words in question. No dictionary use is permitted in this exercise (Aspatore, 1984).

Definition in context

All categories of difficult vocabulary. Definition in context is another strategy for guessing from context. Occasionally, there is a definition of some kind embedded in the text. For example, "Because she did not have enough money to pay for the refrigerator, the salesman suggested that she pay for it in installments over a period of time" (Brown, 1980, p. 10). The difficult word here is **installments**. It is defined by the words before it (**to pay for it**) and after it (**over a period of time**). Students should be taught to find these in-text definitions through exercises.

Root list plus context

All categories except idioms. As in the definition from context strategy, students are asked to guess certain words from context. Here, they are underlined. In addi-

tion, students are provided with a list of roots and their meanings. Students are asked to figure out the meanings of the underlined words from the root list and the context (Aspatore, 1984).

Keller (1978) suggests that students already familiar with the meanings of roots and prefixes can often guess the meaning of a new prefix-root combination. Students should find guessing the meaning of a new word relatively easy if the prefix and root combine in the normal way (A + B = AB). However, this may become more difficult should the combination result in an extended meaning of (A + B = C).

Knowledge of cognates

All categories except idioms. Guessing the meaning of unfamiliar words from a knowledge of cognates is one of the strategies of successful readers (Hosenfeld, 1984). Teachers can help students improve their guessing strategies by asking questions. When a student asks, "What does the word mean?", the teacher can reply by asking, "Does it look like a word in your language?" This only works for languages that are cognate with English. When students are made to look more carefully at the words, they may discover that they have some knowledge to figure out enough meaning to continue reading.

However, there is a danger in "uncritical acceptance of cognates as guides to meaning" (Twaddell, 1973, p. 75).

Some cognates are misleading because, although they may look similar to English words, the meaning in the two languages are quite different. These examples of false cognates are taken from Keller (1978):

French verbs: deranger (disturb) agreer (accept)
nouns: librarie (bookstore) toilette (attire)
adjectives: commode (convenient) genial (inspired) (p. 8)

Knowledge of grammar

All categories of difficult vocabulary. Another context strategy to help students figure out word meanings is a knowledge of grammar. Each word in a sentence has a grammatical function. When the student knows the unknown word's part of speech, he/she can often determine the word's function in the sentence. For example, "Financial advisors and counselors are in the business to help people manage their money wisely" (Sobel and Bookman, 1989, p. 49). Here, **financial** would be the difficult word. **Financial** comes before the noun **advisor**, so it must be an adjective describing someone who gives advice. In the sentence, the advice is about how to use money. If the student can figure out this much from grammar and a description in the sentence, he/she should know enough information to continue reading. As mentioned earlier, some amount of vagueness in meaning must be tolerated (Twaddell, 1973) if a student is to continue to focus on meaning while reading.

Pragmatic knowledge

All categories of difficult vocabulary. A further strategy teachers need to remind students of is the use of their own knowledge of the world. Students sometimes have the habit of reading texts in which they know almost every word, but still consult the bilingual dictionary or the teacher if they come across a new word. Often with a little thinking about their own pragmatic knowledge, they can figure out what the word means. For example, "On his shaven head the old man wore a puggree." (Brown, 1980, p. 10). Students had already been told that the story was set in India. Regardless, even from their own basic knowledge of the world, it would be reasonable to guess that **puggree** is some kind of a hat. Students should be encouraged to keep their pragmatic knowledge with them when they read.

Infer from global context

All categories of difficult vocabulary. In addition to guessing from local context clues, the global context (entire passage or paragraph) can provide clues to the meaning of a difficult word. For example, in the following passage about money (Sobel and Bookman, 1989), the adjective **uncontrolled** can be understood more clearly from the global context than from the local context.

> Saving money is often difficult, but spending it can cause difficulties, too. The many different ways people deal with money reveal much about them. Uncontrolled spending may be a sign of personal problems. Some shoppers buy, buy, buy more than they can use. Psychologists say that this is a way of giving themselves love or power. Many people buy expensive things they don't really need in order to get rid of unhappy feelings. Some people are heavy gamblers and cannot stop, even though they lose all their money. Others find it very painful to spend money, even if they have a lot of it. People who misuse their money probably need psychological help for their personal problems. This help might also change their ways of using money. (p. 48)

Hosenfeld (1984) also considers inference from a broader context to be a successful guessing strategy. The larger context can be useful for predicting meaning or for providing an information source when more information is needed. Furthermore, this may help students to reevaluate initial guesses by consulting the broader context.

Know when not to guess

All categories of difficult vocabulary. According to a study by Haynes (1983), many current reading textbooks supply a great deal of artificial redundancy. This format follows the currently popular trend of guessing from context as an efficient reading strategy. In spite of this, Haynes suggests that artificial redundancy may mislead students about the real nature of authentic texts in English. Students who only learn to guess may not discover when guessing is an inappropriate strategy.

A typical example of this problem, in an authentic text, occurs when a difficult word is set in a text with insufficient context clues. Since L2 learners concentrate most of their attention on the local context (Haynes, 1983), guessing is not recommended for texts with few or no context cues. In addition, rather than making random guesses, students should be taught when to skip a word as insignificant or to get help from a dictionary. Equally important, if a contextual guess conflicts with a word analysis interpretation, further checking is advised. By comparison, global guessing, for most participants in Haynes (1983) study, was not a successful strategy. Finally, completely guessable texts may leave the students without any other strategies to resort to when they encounter difficult vocabulary in less redundant texts.

Exercises in Using Guessing Strategy Knowledge

Words-in-Context

All categories of difficult vocabulary. The first step in using this strategy is to select a reading passage of suitable length. Second, based on experience, the teacher identifies words that are probably difficult for the students. (Alternatively, students could do an initial reading and point out which words they did not know). Next, a set of prepared questions provides focus for a discussion led by the teacher. The class talks about informa-

tion that students can extract from the context to help them guess accurately. As a result, students become aware of the information in which a word is embedded (Honeyfield, 1977). The following exercises are a sample of the type used for discussion after the reading of a story (Honeyfield, 1977):

1. In the story, a _____.
   a)
   b)
   c)
   d)

2. Which of these pieces of information help you to guess the meaning of _____?
   a)
   b)
   c)
   d)

3. Underline Relevant Information: Underline all the words and phrases in the story that help you to guess the meaning of _____.

4. Finding Synonyms and Antonyms: Find words in the passage which mean about the same as _____.
   a)
   b)
   c)
   d)

   Find words in the passage that mean about the opposite of: _____.
   a)
   b)
   c)
   d)

(p. 39)

Questions of these types initiate the class discussion. However, the discussion should continue beyond this basic information to explore aspects of syntax, semantics, pragmatics, and factual information. Syntax involves the

word's position in the sentence. Semantics concerns the information about the word's meaning. "Pragmatics" is used here to mean the ways writers use rhetorical devices to provide redundancy (explaining, describing, presenting, defining, etc.). Factual information represents information used from outside the passage, such as background knowledge (Honeyfield, 1977). By using all of the points learned from the discussion, students should learn how to better guess from context.

Cloze Procedure

All categories of difficult vocabulary. From the literature on reading comprehension and vocabulary development, it is apparent that students focus undue attention on each and every word (Plaister, 1973). Goodman (1967, p. 498) suggests that "reading is a selective process." If this is so, then the cloze procedure could be useful in educating students to make reasonable guesses. Further, the teacher can guide students to this end by enabling them to use what they already know about the language.

The cloze procedure is a technique for preparing a reading text. It is produced in the following manner. The title and first sentence are written unaltered. This provides a lead in and supplies some context for the student to start (Plaister, 1973). After this, the technique leaves every nth word blank, unless the word is a proper

name or a number. In addition, the final sentence of the reading passage is also left intact. The cloze reading text is given to the students who are to write in the missing words by filling in the blanks.

Although the cloze procedure is often used for testing, it is also useful for teaching students to make reasonable guesses. Teachers need to make some alterations to emphasize the teaching aspects of cloze. One way to do this concerns the blank spaces. Instead of a long blank line, use a dash for each letter of the missing word. Students can guess more accurately by providing this information. The initial consonant letter could be placed on the first dash. If the first dash is left blank, this would indicate that the word begins with a vowel. Since students have only five letters to guess from (a, e, i, o, u), it is not necessary to supply them. In addition, each line of the text should be numbered (Plaister, 1973). A sample has been adapted here from Nation (1990) (p. 117):

(1) To make a cake, it is best to use a good basic
(2) recipe. The quantities of flour, b _ _ _ _ _ , and
(3) sugar must be m _ _ _ _ _ _ _ _ accurately. The
(4) sugar and b _ _ _ _ _ are usually mixed together
(5) f _ _ _ _ _ , and the flour and _ _ _ _ are added
(6) afterwards. But in s _ _ _ _ recipes the butter and
(7) f _ _ _ _ are mixed first, instead _ _ the
(8) butter and sugar. T _ _ _ _ many people use an
(9) _ _ _ _ _ _ _ mixer for this part _ _ the
(10) work, which needs s _ _ _ _ _ _ care.
(11) When you put t _ _ mixture into the c _ _ _ pan,
(12) it is necessary to _ _ _ _ _ enough space for the
(13) c _ _ _ to rise, because the m _ _ _ _ _ _ will
(14) expand when it _ _ heated. Standard sizes of
(15) c _ _ _ pans can be bought w _ _ _ _ have the
(16) correct width _ _ _ depth for one pound, t _ _

(17) pound, and three pound c _ _ _ _ .
(18) When you are sure t _ _ _ the temperature of the
(19) _ _ _ _ is right for this k _ _ _ of cake, put
(20) the p _ _ in the oven. When y _ _ take it out of
(21) t _ _ oven, you must allow t _ _ cake to cool
(22) before t _ _ _ _ _ it out of the p _ _ . If you
(23) follow the recipe carefully, your cake may not be
(24) perfect but it will probably be eatable.

Plaister (1973) provides two further teaching suggestions with the cloze procedure. In the first situation, the teacher works with the whole class. Reading materials are prepared according to the previously suggested method and given to the class. Next, the teacher guides the class through the cloze text, line by line. Students are called on individually to provide a missing word. The teacher should call the students' attention to read beyond the blanks to discover the whole context of the word. In this way, they may find additional information to fill in the blanks. Furthermore, the teacher can draw out their own knowledge by asking questions about the missing word.

When the teacher asks for missing words, synonyms or meaning equivalents could be accepted. Different possible words for the same blank can provide an enriching discussion of which words fit best and why.

In the second suggestion, students are put in groups or pairs. This can be done from the outset or after a paragraph or two has been covered by the whole class approach. Discussion of each group's findings will provide the class with their collective knowledge.

Asking Leading Questions

All categories of difficult vocabulary. This strategy is used primarily as a whole class exercise. The purpose of asking leading questions is to direct the students into ways of discovering intelligent guessing from context. Grammar questions would be the first type. These examples are from Twaddell (1973, p. 74): "Is the word a noun, a verb, or an adjective?" "If it's a noun, is it singular or plural?" "What adjectives modify it?" "Is it the subject or object of the verb?" "If it is a verb, what tense is it?" "What is its subject?" " Its object?" Of course, many other grammar questions could be asked if the word is a different part of speech.

After identifying the grammatical clues, the teacher continues the questioning. The next set of questions involves factual clues, utilizing the knowledge gained from the grammar questions. Factual questions suggested by Twaddell (1973, p. 74) can be asked as follows: "If X is a noun, does it refer to a person, place, thing, condition, event, or quality?" Naturally, one question could be asked for each category until the correct one is found. For example: "Is it a person?" "Is it a place?" Next, students could be asked: "How many?" "What kinds?" Moving on to the verb, students could be asked: "If X is a verb, does it refer to an action, a change, a condition, or a relationship?" "When?" "Who does it, people or things?"

Many other questions like this could be asked. The questions help students find factual information in the context to guess the meaning of difficult words. By using these types of leading questions, students are guided toward sensible guessing. Twaddell (1973) suggests that this strategy should be used selectively.

Thinking Aloud

All categories of difficult vocabulary. Thinking aloud is basically a teaching strategy for remedial lessons. Hosenfeld (1984) uses this strategy for American students learning a foreign language who require remedial sessions. In this strategy, the teacher works one-on-one with a student in a private session. The student translates aloud while the teacher listens carefully. During this process, the teacher learns what types of strategies the student uses to decode words.

After the teacher has an idea about the student's decoding strategies, the teacher asks him/her indirect questions, at places in the text where the student is stumped about the translation. The purpose of these indirect questions is to teach successful decoding strategies. Hosenfeld's questions primarily focus on guessing unknown words. These questions can be grouped according to three categories: 1) grammar type questions, (2) cognate type questions, and (3) pragmatic knowledge questions.

This strategy could be adapted to remedial ESL/EFL sessions by following Hosenfeld's alternative approach. This approach encourages the student to process meaning directly in the language of the text. Then, the teacher follows the method of indirect questioning where the student has trouble understanding a word's meaning. This alternative approach will work best with students at the intermediate and advanced levels. Students at these levels would have a sufficient command of English to do all the processing in English.

Although guessing hypothesis strategies help readers to access the meaning of difficult words by improving their reading skills, readers can encounter some problems with these strategies. Three studies (Haynes, 1983; Gabbay and Mirensky, 1984; and Bensoussan and Laufer, 1984) researched contextual guessing strategies in particular. In the study by Haynes, it was found that: (1) successful guessing occurred when words were defined by the local context; (2) however, sometimes the local context had no clues to exploit for guessing; (3) less successful guessing occurred when the whole context (global) was required for the comprehension of the unknown word; and (4) wrong guesses were often caused by graphemic and phonetic mismatches between the word in memory and the word on the page. In addition, Gabbay and Mirensky observed that: (1) context can be both helpful and misleading, (2) students often overlooked or

ignored context clues, and (3) students frequently guessed according to their "pre-conceived notions" regardless of the context. Furthermore, Bensoussan and Laufer discovered that students failed to abandon a mistaken impression even when it made no sense in the context.

In all three of these studies, students may not have been given any instruction for guessing from context. However, since the results of these studies suggest that some situations may impede accurate guessing, students need to know other strategies in addition to guessing. Haynes (1983) agrees, saying that teachers should "encourage guessing when contextual clues are available and provide practice in both guessing from context and word-level graphophonemic accuracy, thus building both flexibility and efficient access to word meaning in memory" (1983, p. 1). Finally, guessing from context clues is a valuable strategy for top-down processing; however, instruction is necessary in order for students to avoid developing strategies that are detrimental to the comprehension process.

In this chapter, strategies from both explicit vocabulary instruction and reading skills instruction have been reviewed. While strategies associated with explicit vocabulary instruction emphasize bottom-up processing, reading skills instructional strategies are geared toward top-down processing. Both approaches have advantages while neglecting the benefits of the other approach. It remains to be

seen therefore, that, while both of these approaches are complementary in nature, a lesson plan incorporating strategies from both approaches could be developed. In the next chapter, pedagogical applications will be made for one strategy from explicit vocabulary instruction and one from reading skills instruction.

CHAPTER 5

SAMPLE LESSON PLANS

The lesson plans described in this chapter are designed to exemplify ways that strategies introduced in this thesis could be put into practice. They do not represent a type of curriculum as such, but rather are intended as examples of ways in which the reading comprehension of students could be improved. In keeping with this thesis, the strategies presented in the lesson plans are intended to teach difficult vocabulary in reading.

The sample lessons illustrate two strategies discussed in chapter four, namely, Structural Analysis and Guessing from Context. Each of these strategies is related to a model of the reading process: bottom-up and top-down respectively. In addition, these two strategies represent both explicit vocabulary instruction and reading skills instruction.

The rationale for selecting these two strategies is that each reflects a particular pedagogical perspective on teaching difficult vocabulary. Structural Analysis focuses on word building by teaching roots and affixes. The purpose of this strategy is to teach many word parts and their meanings. In this way, the student can apply morphological knowledge to figure out a difficult vocabulary word. The

second strategy, Guessing from Context, teaches reading skills which help the reader to make sense of difficult vocabulary. This strategy attacks the problem of difficult vocabulary by teaching how to search for context clues to resolve the puzzle of the unknown meaning of the difficult word.

For both of these lesson plans, the same reading text was selected from an ESL textbook for intermediate level students. This particular text was selected because of its human interest and adaptability to both lesson plans. The selection is taken from Casanave and Williams (1987).

THE LETTER: A QUESTION OF COMPATIBILITY

October 3
Dear David,

Yesterday I received a very special letter from you. In it you said that you are finally ready to get married. After two years! It's about time, I said to myself. At first I was very happy. But then my common sense made me stop and think very seriously. I decided to write you a letter. Here are my thoughts.

I love you, David, you know that. I know that. But is love enough to keep us together? Let's be realistic about our relationship. Are we really compatible?

In the first place, I'm a veterinarian. I take care of dogs and cats. Animals are my life. You don't like pets, in particular dogs and cats, probably because you're allergic to them. You're a musician. Music is your life. You play beautiful music, I'm sure. But I'm tone-deaf. I can't appreciate your music as well as other people can. I work during the day. You practice your music during the day and give concerts in the evening. These differences are facts about our lives. Will we ever see each other if we get married?

We also have some personal differences. For example, I'm athletic; you're not. In many ways, this difference is not important, of course. But just

imagine how we will spend our weekends. I like to go jogging on Saturdays. Will you go with me? Probably not. You like to spend Sundays listening to classical music. Will I listen to music with you on Sundays? Probably not. I don't care for classical music (even though I care for you). I prefer jazz. Plus, I like to play golf or tennis on Sundays. You don't like golf at all. It's true that you like tennis, but your favorite tennis game is on TV, not on the tennis court.

How about our daily routines? I go to bed early and get up early. Even on weekends I like to get up at 7:00. You sleep late and get up late. How can we have breakfast together? Speaking of breakfast, you eat a heavy breakfast-eggs, bacon, toast, and fruit. I don't like a heavy breakfast. I prefer coffee and toast. You don't eat lunch, because you have a big, late breakfast. I'm starved by lunch time. I like to eat a huge lunch. My favorite lunch is a big hot sandwich, a salad, and a bowl of soup. You get hungry for dinner by 5:30, because you don't eat lunch. I like to relax after I get home from work and eat later, at 7:00 or 8:00.

Maybe those differences are not so important either. But how about these? You live in New York; I live in California. You need to travel for your job; I can't travel because of my job. You're mother doesn't like me; my mother doesn't like you. You want an apartment in the city; I want a house in the country. You squeeze the toothpaste from the bottom; I squeeze it from the middle. David, how can we have a compatible marriage?

Well, I guess we have a few things in common. We're both in our 40s. We were both married once before. We both like photography. In fact, you're a pretty good photographer. I like to take photos of animals, understandably. I enclosed a photo in this letter of some elephant seals at Ano Nuevo beach. What do you think of it? Perhaps after we get married, we can build a darkroom. Do you like that idea? We also both love pizza with anchovies. Most of my other friends hate anchovies. If we don't get married, who will I eat pizza with? We both like to cook, too, and to eat good food. And we both like to see good movies and read good books. Both of us dislike politics and politicians. Most important, we're both honest. We don't lie. We can talk openly and comfortably. David, I trust you and I love you! What should we do? What I should do? Should I say yes? Should I say no? Should we get married? Should we just be friends? Should we be married and be friends?

I will write you again soon. Meanwhile, please write me back as soon as possible. What do you think? Are we compatible?
With love,
Angelina (p. 120)

Lesson Plan 1: **Structural Analysis**

Objectives:

The objectives of this lesson are for students to identify and learn the meanings of suffixes. Based on this knowledge students will be able to determine the meanings of the underlined words in the context of the passage.

Procedure:

First, students will study the meanings of suffixes and their relationship to parts of speech. Next, students will study how these suffixes affect the meaning of the underlined words. Finally, after reading the passage, students will write out the meanings of the underlined words in the text.

Lesson: Suffixes and their meanings

I. Study these suffixes and learn their meanings and parts of speech. Definitions were taken from Collins Cobuild English Language Dictionary (CCELD) (1987) and Webster's New World Dictionary (WNWD) (1984).

1. able - adjective suffix
   added to uncountable nouns to form adjectives describing someone or something as being in a particular state or as having a particular quality. (comfort - comfortable) (CCELD, p. 3)

2. ably - adverb suffix
   corresponding to able (WNWD, p. 3)

3. ible - adjective suffix
   same as -able, used in forming adjectives derived from Latin verbs ending in a vowel. (divide - divisible) (WNWD, p. 694)

4. al - adjective suffix
   adjective forming suffix meaning like or suitable for (comical, theatrical) (WNWD, p. 30)

5. ian - noun suffix
   same as -an, one belonging or having some relation to someone or something. (music - musician) (WNWD, p. 48, 693)

6. ic - adjective suffix
   a) having the nature of, (angelic)
   b) produced by, caused by, (allergic)
   c) having, showing, affected by, (lethargic)
   noun suffix
   characteristic of, (cynic) (WNWD, p. 694)

7. ly - adverb suffix
   added to adjectives to form adverbs that describe verbs but following the basic meaning of the adjective form (loud - loudly) (CCELD, p. 872)
   in a specified order or sequence (firstly) (WNWD, p. 845)

8. ship - noun suffix
   added to nouns to form other nouns that refer to relations between people or things (friend - friendship) (CCELD, p. 1335)

9. y - noun suffix
   shop of a specified kind (bakery) (WNWD, p. 1645)

II. Fill in the chart with the correct form of the word for each part of speech. A "+" checks off the word given in the list under the part of speech heading. This way, the word does not have to be written. The first one is done for you as an example.

words	nouns	verb	adj	adv.
allergic	allergy		+	allergically
athletic				
compatible				
personal				
realistic				
relationship				
seriously				
finally				
veterinarian				
musician				
classical				
photography				
understandably				
politics				
politician				
openly				
comfortably				

III. Study the way new words are formed by adding suffixes to the underlined word in the first sentence of each pair of sentences.

1. English is at the <u>center</u> of the study program.
   English is <u>central</u> to the study program.

2. Jim could <u>flex</u> the hose until it was bent into a circle. The hose was <u>flexible.</u>

3. <u>Electricity</u> is the power used to make the stove work. So, it is called an <u>electric</u> stove.

4. Cars on the highway are <u>quick</u>. Cars on the highway go <u>quickly</u>.

5. John and Bill are good <u>friends</u>. They have a good <u>friendship</u>.

6. Mark plays nice <u>music</u> on the piano.
   He's a great <u>musician</u>.

7. Carla has good <u>health</u>. She is never sick because she is so <u>healthy</u>.

8. Jack's new car was <u>affordable</u> because he paid cash for it. His new car was <u>affordably</u> priced.

IV. Read the first sentence in each pair of sentences. The blank in the second sentence should be filled in using the underlined word from the first sentence. Change this underlined word by adding one of the suffixes from this lesson such as: al, ible, ic, ly, ship, ian, y or ably.

1. Diane has an <u>allergy</u> to milk.
   She can't drink milk because she is _____ to it.

2. When people get along well together, they have <u>compatibility</u>.
   Jack and Jill are two friends who are _____.

3. When stories or music keep their value over time, they are considered <u>classics</u>.
   A special kind of music that usually uses guitars is called _____ .

4. Mary's aunt and uncle are her <u>relations</u>.
   But, she has a _____ with her boyfriend.

5. The curtain opened on the final act of the play. Henry was bored watching so he said, "soon this play will _____ be over."

6. Michele is an animal doctor who works in a veterinary hospital.
She's a _____ .

7. This photograph you took of me is great.
I do like your _____ .

8. The deep soft leather chairs looked comfortable.
Mr. Harris was seated _____ in one of them.

Student Practice:

The words in the parentheses before each of the following sentences all belong to the same word family, but only one of those words belongs in the blank. Decide what kind of word belongs there: verb, noun, adjective, or adverb. Then take the correct word from the parentheses and write in the blank.

1. (allergy, allergic, allergically)
Mary can't drink milk. She's _____ to it.

2. (athlete, athletic, athletically)
Tim plays on three sports teams. He's a good _____.

3. (compatible, compatibly, compatibility)
Joe and Sue get along well. They have good _____.

4. (person, personal, personally)
Bill has his own _____ computer.

5. (real, realistic, realistically)
Mike always makes decisions on the facts and not on his feelings. He looks at life _____.

6. (relation, relational, relationship)
Jack and Jill go out on dates often. They have a romantic _____.

7. (serious, seriously, seriousness)
Pete studies hard everyday. He's _____ about his studies.

8. (final, finally, finalize)
   After her parents waited for several hours, Martha _____ came home.

9. (veterinary, veterinarian)
   Mr. Douglas is a _____ doctor.

10. (music, musical, musician)
    A movie that has many songs and much singing is a _____.

11. (classic, classical, classically)
    A famous court case is called a _____ case.

12. (photograph, photographic, photography)
    The art of picture taking is _____.

13. (politics, political, politician)
    A _____ is an elected offical.

14. (open, openly, openness)
    Jane told us _____ about her troubles.

15. (comfort, comfortable, comfortably)
    The new sofa is very _____.

16. (understand, understandable, understandably)
    Because of the heavy snowfall, school was _____ cancelled.

Structural Analysis:

According to the story what do these words mean?

finally -

seriously -

realistic -

relationship -

compatible -

veterinarian -

allergic -

musician -

personal -

athletic -

classical -

photography -

understandably -

politics -

politican -

openly -

comfortably -

Lesson Plan 2: **Guessing from Context**

Objective:

As a result of this lesson, students will apply strategies to uncover the meaning of difficult vocabulary in the reading text and thereby improve comprehension.

Procedure:

First, the teacher will provide instruction on two strategies for guessing from context. Second, the students will apply the strategies from this lesson to a set of sample sentences. Third, the students will read the passage using the strategies they have practiced to guess the meanings of the underlined words. Finally, students will write brief descriptions of the underlined words.

Lesson: Guessing from context

A. Infer from local context.

The teacher will discuss with the students what words are familiar in the sentence. The teacher will show them that to infer the meaning of a difficult word from the local context they must consider the whole sentence or sometimes the whole paragraph. The sentence examples used here were taken from Parkenham (1986).

1. Jim's illness is <u>serious</u>. He will have to stay in the hospital for some weeks. (p. 41)

2. Tomorrow is an <u>important</u> day for me. I begin a new job tomorrow. (p. 2)

B. Define from context.

Students look for words which give a description of the meaning of the new word. Then, students circle those words. The class discusses which clues were chosen and why.

1. The students read two pages of the story on Monday; on Tuesday they continued the story; on Wednesday they finished it. (p. 3)

2. This apartment is unsuitable for my brother and his family. It has only one bedroom and it is not near any schools. (He has three children). (p. 5)

Student Practice:

Students practice guessing the meaning of the underlined words using the two strategies they have just learned. Example sentences were taken from Parkenham (1986).

1. Many people in the U.S. are worried about education. Some are worried about the quality of education. In their opinion, their children are not learning enough. Others are **concerned** about the things that their children learn. They do not like many of these new things.

To be concerned about means to be _____.
a. worried
b. happy
c. satisfied (p. 91)

2. Sometimes teachers cannot control students who are not interested in class and who do not want to learn. These students **disturb** the classes. As a result, other students who are serious about their studies cannot learn.

To disturb means _____.
a. not to attend classes every day
b. to improve the quality of classes a great deal
c. to stop classes from doing what they have to do (p. 91)

3. In the U.S., 70% of people who **graduate** from high school go to a college or university. But in Great Britain, only 20% of eighteen-year-old students in high school go on to university.

To graduate from high school means _____.
a. to like
b. to finish
c. to study (p. 90)

4. Abdullah is very happy. He **received** a letter from his family yesterday. It contained a check. Now he has enough money for the last six weeks of the semester.

To receive means _____.
a. to write
b. to get
c. to send (p. 91)

5. I had a car accident last night. According to the police it was clearly my fault. I drove into the back of a car which stopped. In my opinion, however, the other driver also **was to blame**. He stopped at a green traffic light.

To be to blame for something means _____.
a. to cause something bad
b. to critize something
c. to agree with something (p. 92)

6. There was an important meeting for all foreign students yesterday. Almost all the students **attended** the meeting. Only one or two were not there.

To attend means _____.
a. to be present
b. to forget
c. to talk about (p.92)

Guessing from the Reading:

Students will read the story and make guesses about the underlined words. Students will apply the strategies they have studied in this lesson. After they read, the students will write a brief description for each word.

1. seriously -
2. realistic -
3. relationship -
4. compatible -
5. allergic -
6. personal -
7. athletic -
8. classical -
9. finally -
10. openly -
11. veterinarian -
12. musician -
13. politician -
14. politics -
15. photography -
16. understandably -
17. comfortably -

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